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Former NTC Bainbridge, Port Deposit, MD Contract N62470-93-D-3032 D.O. # 137 Site Removal Actions Project No. 919568 Date: 12-Nov-99 Title: memo~36

TO:

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FROM:

Larry Stearns Project File

COPIES: SUBJECT:

Transmittal of Project Close-Out Reports: Volume 7: Lead Soil Impacted Sites:

> Buildings 689 and 1054: Water Towers Building 707: Paint Storage Locker

Buildings 204, 304, and 404: Small Arms Ranges

Enclosed are the following copies of the above referenced document:

• U.S. EPA – Region III: 3 copies of each

MDE: 2 copies of eachNavy: 5 copies of each

Please forward any comments to Mr. Frank Zepka at the Navy.



CONTRACTOR CLOSE-OUT REPORT SITE CLEAN-UP AND REMOVAL ACTIONS FORMER NAVAL TRAINING CENTER - BAINBRIDGE PORT DEPOSIT, MARYLAND

VOLUME 7 LEAD SOIL IMPACTED SITES: BUILDINGS 689 AND 1054: WATER TOWERS BUILDING 707: PAINT STORAGE LOCKER BUILDINGS 204, 304, AND 404: SMALL ARMS RANGES

Prepared for:

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LIST OF ACRONYMS

Acronym	<u>Title</u>
cyd EPA MDE mg/kg NTCB	cubic yard U.S. Environmental Protection Agency – Region III Maryland Department of the Environment milligram per kilogram [parts per million] Former Naval Training Center Bainbridge
OHM ppm	OHM Remediation Services Corporation, a subsidiary of The IT Group parts per million [micrograms per gram]
SW-846 TAL TCLP	U.S.EPA "Test Methods for Evaluating Solid Waste", 3 rd ed., July 1994 Target analyte list Toxicity Characteristic Leaching Procedure
XRF	X-ray Fluorescence

1.0 INTRODUCTION

OHM Remediation Services Corp. [OHM] was contracted by the Navy to perform environmental remediation at the former Naval Training Center Bainbridge [NTCB] near Port Deposit, Maryland. This report documents a portion of the work performed on this project by OHM under federal contract N62470-93-D-3032, Delivery Order No. 137 issued 5 February 1997. Specifically, this report addresses the remediation at Buildings 689 and 1054 (Water Towers), Building 707 (Paint Storage Locker) and Buildings 204, 304 and 404 (Small Arms Ranges). Refer to drawing RD-01 for the building locations.

1.1 PROJECT BACKGROUND

Design and construction of NTCB began in 1942 initially building from the property of the former Tome Institute School. NTCB served as a boot camp for Navy recruits during World War II and the Korean War and was permanently closed in 1976. The facility encompasses approximately 1,250 acres and consists of roads, drill fields, and about 60 remaining buildings. Most buildings and structures within NTCB were demolished during the last 10 years. Since deactivation, NTCB has become extensively overgrown and has been little used in the past two decades.

The U.S. Department of the Navy currently owns NTCB, but transfer of ownership to the State of Maryland is in progress pending resolution of various environmental and other issues. State and local agencies are planning to develop NTCB, possibly for commercial and residential use. The remediation discussed in this report is part of a larger environmental remediation effort by the Navy at NTCB.

1.2 GENERAL SCOPE OF WORK

The general scope of work for the remediation at the lead soil impacted sites involved removing the upper 6 to 18-inches of lead impacted soils for disposal as non-hazardous and hazardous waste at Buildings 689 and 1054, removing the upper 18 to 30-inches of lead impacted soils for disposal as non-hazardous and hazardous waste at Building 707, removal of the upper 12 to 36-inches of lead impacted soils for disposal as non-hazardous and hazardous waste at Buildings 204, 304 and 404 and restoring the areas after remediation.

During the execution of this work, OHM used the following subcontractors for waste disposal or analytical services.

- Non-hazardous solid waste disposal BFI Conestoga Landfill New Morgan Landfill Co., Inc.,
 P.O. Box 128, Mineview Drive Extension, Morgantown, Pennsylvania 19543 (610-286-6844).
- Hazardous solid waste disposal Capitol Environmental Mill Service, Inc., R.D. 1 Box 135A, Yukon, PA 15698 (724-722-3500).
- Laboratory analytical work Analytical Laboratory Services, Inc., 34 Dogwood Lane, Middletown, PA 17057 (717-944-1430).
- Laboratory analytical work Gascoyne Laboratories, Inc., 2101 Van Deman Street, Baltimore, Maryland 21224 (410-633-1800).



• Laboratory analytical work - Accutest Laboratories, Inc., 4405 Vineland Road, Suite C-15, Orlando, Florida 32811 (407-425-6700).

1.3 PROJECT CLEANUP LEVELS

The project cleanup levels listed in Table 1 were established by the Navy with the concurrence of the EPA and MDE. Remediation continued until all of the confirmation analyses gave results that did not exceed the cleanup level(s) for the particular chemical(s) of concern at a specific location. Although laboratory analyses other than those listed in Table 1 may have been performed and may be reported in this document, the Table 1 values were the only cleanup levels specifically established for NTCB.

For the Lead Impacted Soil Sites, the chemical of concern for cleanup level was:

Lead

Table 1: Project Cleanup Levels Applied at Various NTCB Locations

Chemical of Concern	Cleanup Level	Units	Units	Intended Matrix
Total Petroleum Hydrocarbons	100	mg/kg	ppm	Soil
DDT	4.3	mg/kg	ppm	Soil
DDE	16.3	mg/kg	ppm	Soil
DDD	23.1	mg/kg	ppm	Soil
Alpha Chlordane	4.1	mg/kg	ppm	Soil
Gamma Chlordane	4.1	mg/kg	ppm	Soil
Heptachlor Epoxide	0.4	mg/kg	ppm	Soil
Antimony	27	mg/kg	ppm	Soil
Lead	400	mg/kg	ppm	Soil
Benzo (a) pyrene	2.0	mg/kg	ppm	Soil
Total PCB	10	mg/kg	ppm	Soil
Total PCB	10	mg/kg	ppm	Concrete
Total PCB	10	mg/kg	ppm	Non-porous Surfaces
Total PCB	50	mg/kg	ppm	Encapsulated Concrete

2.0 SUMMARY OF WORK PERFORMED

The following sections summarize the remediation work performed for the site cleanup action at Buildings 689 and 1054 (Water Towers), Building 707 (Paint Storage Locker) and Buildings 204, 304 and 404 (Small Arms Ranges). The locations of these lead impacted sites are shown on drawing RD-01.

2.1 LOCATION INVESTIGATION AND INITIAL REMOVALS

Except for Buildings 689 and 1054 [Water Towers], surface soil samples were collected and field screened for lead at all lead impacted sites. In the field, a TN Technologies Spectrace 9000 XRF Analyzer was used to delineate the approximate horizontal and vertical extent of lead impacted soils at Buildings 104, 204, 304, 404, and 707. At Buildings 689 and 1054, the lead impacted soils were delineated by using off-site laboratory analyses for Total Lead by Method 6010.

Building 104 did not require remediation as none of the 24 soil samples had XRF lead concentrations exceeding the Table 1 cleanup levels. However, the following gives the approximate extent of the lead impacted soil locations that eventually became remediated:

7,100 sft from 6 to 18-inches deep,
2,050 sft from 6 to 12-inches deep,
3,200 sft from 18 to 30-inches deep,
67,600 sft from 12 to 36-inches deep,
6,000 sft at 24-inches deep,
28,600 sft from 12 to 36-inches deep.

2.2 REMOVAL ACTION

The following summarizes the lead impacted soil removal actions performed during the site remediation. During this work, close communication was maintained with the Navy, EPA, and MDE representatives regarding the remediation progress and decisions about confirmation analytics.

2.2.1 Water Towers - Buildings 689 and 1054

Prior to excavation activities, several soil samples were collected from each location to approximate the area for remediation and prepare waste characteristic profiles for disposal. The soils were initially excavated in 6-inch lifts and the removed soils were staged on plastic tarps prior to load-out for off-site disposal. Confirmation samples were collected for laboratory analysis of Total Lead (Method 6010) from 0 to 6-inches below grade. Additional excavation was performed in 6-inch lifts if the confirmation sample results exceeded the Table 1 cleanup levels.

Drawing RD-07 shows the final excavation depths and areas. Approximately 449.59 tons of hazardous lead impacted soil from Water Tower 689 was disposed of off-base at a properly permitted landfill facility. Approximately 46 tons on non-hazardous lead impacted soil from Water Tower 1054 was disposed of off-base at a properly permitted landfill facility.



2.2.2 **Buildings 204, 304, 404 and 707**

Prior to the excavation activities at these locations, a series of soil samples was collected in an effort to establish a correlation between Total Lead (Method 6010), Toxicity Characteristic Leaching Procedure (TCLP) for Lead (Method 1311/6010), and field XRF total lead testing. The generated curve was used to guide segregation of removed soils into piles of non-hazardous versus hazardous wastes for disposal.

At these four building locations, lead impacted surface soils were excavated based on the field XRF screening results. If XRF screening results for the grid samples were greater than 400 ppm lead, then additional excavation was performed in 6 to 12-inch lifts. When the Table 1 cleanup criteria level of 400 ppm lead was attained in the grid samples, then confirmation soil samples were collected for field screening by XRF and submittal to the laboratory for analysis.

Using the correlation data of Total Lead verses TCLP Lead from the laboratory, the lead impacted soil material (defined as greater than 400 ppm Total Lead) from each building location was selectively excavated to be combined with material from grids with similar lead levels based on the XRF Total Lead investigation. The soils were segregated into approximately 100 cyd piles which resulted in the formation of 70 lead impacted soil piles [10 piles from Building 707; 5 piles from Building 304; 19 piles from Building 404; and 36 piles from Building 204].

During the remediation of these four building locations, approximately 5,259.61 tons of hazardous lead impacted soil was disposed of off-base at a properly permitted landfill facility. In addition, approximately 5,079.98 tons of non-hazardous lead impacted soil was disposed of off-base at a properly permitted landfill facility.

2.3 <u>SITE RESTORATION</u>

All excavations deeper than approximately 1-foot deep were backfilled with clean, sandy soil from the Old Landfill cap stripping work. The edges of excavations were smoothed, and the areas were made safe and graded to minimize surface water collection. All disturbed areas were hydroseeded with a grass seed mixture and mulched with chopped straw.

3.0 CLEANUP CONFIRMATION

The following discussion summarizes the confirmation analyses that represent the lead impacted sites, Buildings 689 and 1054 (Water Towers), Building 707 (Paint Storage Locker) and Buildings 204, 304 and 404 (Small Arms Ranges) at the completion of remediation. Drawing RD-07 shows the sample locations.

3.1 CONFIRMATION APPROACH

This discussion is a synopsis of the approach to confirmation sampling and analyses that was presented in the OHM Work Plans: Addendum No. 2 dated 22-Dec-98, Addendum No. 3 dated 22-Jun-99 and Addendum No. 4 dated 10-Sep-99.

3.1.1 Water Towers - Buildings 689 and 1054

For the surface soil excavations at Buildings 689 and 1054, post excavation confirmation sampling was performed by the off-site laboratory. A circular, 10-foot wide ring, grid system was established around each of the previously removed water towers. Composite samples were collected from surface to a depth of 6-inches within each quadrant and sent to the laboratory for confirmation testing by Total Lead, SW846, Method 6010. If lead concentrations exceeded the action level of 400 ppm, additional excavations of 6-inches deep were performed followed by additional sampling.

3.1.2 **Buildings 204, 304, 404 and 707**

For all surface soil excavations at Buildings 204, 304, 404 and 707, post excavation field screening for lead was performed using the TN Technologies, Spectrace 9000 XRF Analyzer. Soil samples were collected and tested from sampling block areas (approximately 50' x 50' grid blocks) that were established from previous field XRF investigation.

The field screening results were then used to determine if additional excavation was needed or if samples should be collected for laboratory confirmation analyses. The following sample log lists the confirmation samples processed for each of the lead impacted sites:

Table 2: Sample Log for Buildings 204, 304, 404, 689, 707 and 1054

BUILDING	CONFIRMATION SAMPLE LEFT IN PLACE	LABORATORY ANALYTICAL	BUILDING	CONFIRMATION SAMPLE LEFT IN PLACE	LABORATORY ANALYTICAL
707	707-276C	Total Lead, TAL Metals	204	204-368C1	Total Lead
	707-278C	Total Lead, TAL Metals		204-559C	Total Lead
	707-262C	Total Load		204-374C	Total Lead
	707-46C	Total Lead, TAL Metals		204-411C	Total Lead
	707-98C	Total Lead		204-484C	Total Lead
	707-155C	Total Lead		204-154C	Total Lead
	707-134C	Total Lead, TAL Metals		204-136C	Total Lead
	707-01C	Total Lead, TAL Metals		204-390C	Total Lead
	707-177W	None, XRF Screened		204-25C	Total Lead
	707-188W	None, XRF Screened	_	204-159C	Total Lead
	707-79W	None, XRF Screened		204-291C	Total Lead, TAL Metals
	707-37W	None, XRF Screened		204-442C	Total Lead
	707-285W	None, XRF Screened		204-299C	Total Lead
	707-107W	None, XRF Screened		204-80C	Total Lead, TAL Metals
	707-170W	None, XRF Screened		204-60C	Total Lead
	707-161W	None, XRF Screened		204-331C1	Total Lead
	707-69W	None, XRF Screened		204-381C	Total Lead



BUILDING	CONFIRMATION SAMPLE	LABORATORY	BUILDING	CONFIRMATION SAMPLE	LABORATORY
	LEFT IN PLACE	ANALYTICAL	<u> </u>	LEFT IN PLACE	ANALYTICAL
707	707-263W	None, XRF Screened	204	204-35C2	Total Lead
	707-204W	None, XRF Screened		204-338C1	Total Lead
	707-224W	None, XRF Screened		204-164C	Total Lead
	707-275W	None, XRF Screened		204-96C	Total Lead
	707-294W	None, XRF Screened		204-515C	Total Lead
	707-208W	None, XRF Screened		204-423C	Total Lead
304	304-09C	Total Lead, TAL Metals		204-400C	Total Lead
	304-14C	Total Load, TAL Motals		204-324C1	Total Lead, TAL Metals
	304-119C	Total Lead, TAL Metals		204-320C	Total Lead, TAL Metals
	304-34C	Total Lead, TAL Metals		204-548C	Total Lead
	304-37C	Total Lead, TAL Metals		204-558C1	Total Lead, TAL Metals
	304-17W	None, XRF Screened		204-554C	Total Lead
	304-74W	None, XRF Screened		204-473W	None, XRF Screened
	304-50W	None, XRF Screened		204-487W	None, XRF Screened
	304-69W	None, XRF Screened		204-492W	None, XRF Screened
	304-79W	None, XRF Screened		204-510W	None, XRF Screened
	304-97W	None, XRF Screened		204-513W	None, XRF Screened
	304-92W	None, XRF Screened		204-522W	None, XRF Screened
	304-22W	None, XRF Screened	1	204-520W	None, XRF Screened
	304-113W	None, XRF Screened		204-194W	None, XRF Screened
404	404-183C1	Total Lead		204-213W	None, XRF Screened
	404-197C	Total Lead, TAL Metals		204-191W	None, XRF Screened
	404-144C	Total Lead		204-28W	None, XRF Screened
	404-133C	Total Lead	 	204-39W	None, XRF Screened
·	404-76C1	Total Lead		204-217W	None, XRF Screened
	404-101C1	Total Lead, TAL Metals		204-219W	None, XRF Screened
	404-92C2	Total Lead, TAL Metals		204-227W	None, XRF Screened
	404-30C	Total Lead	<u> </u>	204-577W	None, XRF Screened
	404-11C1	Total Load, TAL Metals		204-236W	None, XRF Screened
	404-167C	Total Lead, TAL Metals		204-249W	None, XRF Screened
	404-198C	Total Lead	- -	204-252W	None, XRF Screened
	404-44W	None, XRF Screened	<u> </u>	204-339W	None, XRF Screened
<u> </u>	404-112W	None XRF Screened		204-452W	None, XRF Screened
	404-185W	None, XRF Screened		204-445W	None, XRF Screened
	404-190W	None, XRF Screened		204-438W	None, XRF Screened
	404-194W	None, XRF Screened		204-163W	None, XRF Screened
	404-197W	None, XRF Screened		204-164W	None, XRF Screened
	404-151W	None, XRF Screened		204-430W	None, XRF Screened
	404-183W	None, XRF Screened		204-103W	None, XRF Screened
	404-106W	None, XRF Screened		204-421W	None, XRF Screened
	404-109W	None, XRF Screened		204-118W	None, XRF Screened
	404-133W	None, XRF Screened		204-462W	None, XRF Screened
	404-130W	None, XRF Screened		204-375W	None, XRF Screened
689	NE CON	Total Lead	1054	NE CON	Total Lead
503	SE CON2	Total Lead		SE CON	Total Lead
	SWCON	Total Lead		SW CON2	Total Lead
	NW CON3	Total Lead		NW CON	Total Lead
	NE-1 CON	Total Lead	- -	NW-1 CON	Total Lead
	SE-1 CON	Total Lead		1 2 2	<u> </u>
	SE-ICON2	Total Lead	 -		
	SE-2 CON	Total Lead		 	
	SW-1 CON	Total Lead	$\overline{}$		
1	NW-1 CON	Total Lead			

For Buildings 204, 304, 404 and 707 in the above sample log, the first numeric set refers to the building number where the sample was collected. The second numeric set refers to a chronological sample number for that building. The "C" denotes a confirmation sample of the random grid while the "W" denotes a wall confirmation sample. Numbers after the "C" designation indicate the number of additional 12-inch lifts of excavation required.

For Buildings 689 and 1054 in the above sample log, the first alpha-numeric set refers to the quadrant where the sample was collected. The "CON" denotes a floor confirmation sample. Numbers after the "CON" designation indicate the number of additional 6-inch lifts of excavation required.



Laboratory testing of soil samples used the following EPA SW846 methods:

Total Lead 6010 TAL Metals 6010/7471

TCLP 1311 for extract, and 6010/7471 for metals.

Three individual floor grab samples were collected from 0 to 6-inches below the remediation excavation grade from the three "hottest" grids previously XRF determined. These three grab samples were then field screened using the XRF Analyzer. If the XRF field screening result was < 400 ppm lead for all three floor grabs, then a fourth floor grab sample was collected from a randomly selected grid within the 50' x 50' block, field screened with the XRF unit before being sent to the laboratory for confirmation testing by Total Lead, SW846, Method 6010.

If the XRF field screening result was > 400 ppm lead for any of the three floor grabs or the random grid, then for excavation purposes all of the adjacent 10' x 10' grids for each of the grabs above 400 ppm lead were XRF field screened. Supplemental excavations were 12-inches deep.

Also, at the Buildings 204, 304, 404 and 707 lead impacted soil removal sites, one wall sample was collected every 50 linear feet along the exterior perimeter for any excavation of two feet or less, and was tested by XRF field screening. The "left-in-place" analyses included both confirmation samples analyzed by the laboratory (random sample) and results obtained by the XRF Analyzer (wall sample). Additionally, at the Buildings 204, 304, 404 and 707 lead impacted soil removal sites, five grab samples per building location were collected at random grids in the remediation areas for Target Analyte List (TAL) Metals, SW846, Method 6010/7471. All laboratory analytics included a Navy NFESC Level C quality control package.

3.2 LABORATORY ANALYTICAL RESULTS

3.2.1 Water Towers - Buildings 689 and 1054

Initially, the confirmation results from two quadrants of Building 689 and one quadrant of Building 1054 did not achieve the 400 mg/kg Total Lead cleanup criteria shown in Table 1. Additional excavation, sampling, and analyses were then performed. The final condition of the Building 689 site indicates that the highest left-in-place Total Lead concentration is 290 mg/kg at sample location NE-2-DEC, a sample location that was outside of the remediation area. The final condition of the Building 1054 site indicates that the highest left-in-place Total Lead concentration is 250 mg/kg at sample location NW-2-DEC, a sample location that also was outside of the remediation area.

3.2.2 Buildings 204, 304, 404 and 707

Of the 53 surface soil random grid confirmation samples collected from Buildings 204, 304, 404 and 707, the off-site laboratory confirmed the on-site XRF screening results for Total Lead in 50 samples. Three sample locations [404-76C, 204-35C1 and 204-368C] initially failed to achieve the Table 1 400 mg/kg Total Lead cleanup criteria. Subsequent excavations of 12-inches in each area followed by additional sampling and analysis brought these three random grids to below the Table 1 cleanup criteria. All of the wall confirmation samples, field screened for Total Lead by XRF, were within the cleanup criteria of 400 mg/kg Total Lead and no further excavation was required.



3.3 CORRELATION OF LABORATORY AND FIELD XRF LEAD RESULTS

During the investigative and remediation phases of the work activities, three TN Technologies Spectrace 9000 XRF Analyzers were used for field screening. The correlation of the XRF test results relative to the associated laboratory results is presented for each machine used during the project.

From the time period of July 19 – August 12, 1999, unit S/N Q004 was used for field screening. In this time period, six soil samples were selected for correlation purposes. The samples were field screened for Total Lead by XRF and then submitted to the off-site laboratory for analysis of Total Lead by SW846, Method 6010. From this limited correlation, an XRF screening value of 300 ppm Lead was used during this time period of the investigative phase to guide the field excavation activities.

Table 3: Correlation of Laboratory Results with XRF Spectrace Unit S/N Q004

Sample No.	XRF, ppm Lead	Laboratory Analytical, ppm Lead
707-231	414	490
304-02	1238	1700
304-05	313	410
304-07	1593	1500
707-229	580	750
204-01	2801	4100

Due to operational problems encountered with unit S/N Q004 [primarily slow processing time], this unit was replaced with unit S/N Q040 on August 17, 1999. Unit S/N Q040 was used until August 26, 1999. During this time period, four soil samples were selected for correlation purposes. The samples were field screened for Total Lead by XRF and then submitted to the off-site laboratory for analysis of Total Lead by SW846, Method 6010. From this data, a better correlation between the two distinctly different testing methods was obtained and an XRF screening value of 360 mg/kg Total Lead was used during this time period of the investigative phase to guide field operations.

Table 4: Correlation of Laboratory Results with XRF Spectrace Unit S/N Q040

Sample No.	XRF, ppm Lead	Laboratory Analytical, ppm Lead
204-221	383	340
204-224	343	300
204-225	636	560
204-251	1069	1100

Prior to moving into the remediation phase of the work activities and since the rental time period of the previous instrument had expired, the third Spectrace 9000 XRF Analyzer, unit S/N Q007 was put into service on September 8, 1999. This instrument would be used through the remainder of the work activities at the lead impacted sites, whether investigative or remediation confirmation.

Prior to the excavation activities at the lead impacted sites, a series of soil samples was collected in an effort to establish a correlation between Total Lead (Method 6010), Toxicity Characteristic Leaching Procedure (TCLP) for Lead (Method 1311/6010) and field XRF total lead testing.



Table 5: Correlation of Laboratory Results with Spectrace Unit S/N Q007

Sample No.	XRF, ppm Lead	Lab Anal., ppm Lead	Lab Anal., TCLP, mg/L
Corr-01	984	930	< 0.5
Corr-02	884	1200	< 0.5
Сотт-03	717	1800	1.5
Согт-04	229	240	< 0.6
Согт-05	492	500	< 0.5
Corr-06	620	2300	< 0.5
Corr-07	201	170	4.2
Corr-08	2217	2100	< 0.5
Corr-09	3412	5000	64
Corr-10	154	100	5.4
Corr-11	5304	7900	200
Corr-12	3052	7100	58
Согт-13	9428	17000	450
Corr-14	50510	50000	1600
Corr-15	3697	9200	400
Corr-16	19480	42000	1500
Corr-17	1557	1600	15
Corr-18	21080	33000	1500
Corr-19	39610	55000	1500
Corr-20	1303	4100	35
Corr-21	6557	13000	160
Corr-22	3287	6500	21
Corr-23	3017	7000	56
Сопт-24	1552	3300	120

Although this data shows limited information at concentrations near the cleanup criteria [i.e., 400 mg/kg Total Lead], a conservative linear relationship was developed between the field XRF screening method and the laboratory method. An XRF field screening value of 350 ppm Total Lead was used to indicate if additional soil excavation was required and to guide field activities. Unfortunately, the data did not show a clear correlation between Total Lead and TCLP Lead. This forced a change in the planned field operations toward segregating soils excavated from the lead impacted sites into 100 cyd piles, and then submitting a soil sample from each pile to the laboratory for analysis of TCLP Lead by Methods 1311 and 6010 to determine if the pile would be disposed of as a hazardous or non-hazardous waste. Throughout the duration of the various work activities of this project and independent of the instrumentation used, the inconsistencies in the correlation attempts between the two distinct methods for determining Total Lead in soil can largely be attributed to the gross non-homogeneous nature of the soil.

3.4 CLEANUP CONFIRMATION RESULTS

Table 6 presents the off-site laboratory analytical results and the associated on-site XRF screening results for Total Lead in all of the post excavation confirmation samples for Buildings 204, 304, 404, and 707. All of the data in this table are sample results that represent the "left-in-place" condition of the site. The results indicate that each of these four remediation locations achieved the Table 1 cleanup criteria of 400 mg/kg Total Lead.

OHM Project 19568 Bainbridge, Maryland October 1999



Table 6: Cleanup Confirmation Results for Buildings 204, 304, 404 and 707

Sample No.	XRF, ppm Lead	Lab Analytical, ppm Lead
707-276C	25	18.9
707-278C	23	33.6
707-262C	37	37.1
707-46C	96	63.1
707-98C	156	41.8
707-155C	14	19.1
707-134C	65	79.9
707-01C	91	65.6
304-09C	23	10.3
304-14C	10	8.2
304-119C	< 10	4.7
304-34C	< 10	9.2
304-37C	11	7.8
404-183CI	136	247
404-197C	84	70.5
404-144C	32	21.1
404-133C	29	17.5
404-76C1	28	10.6
404-101C1	56	14.0
404-92C2	123	124
404-30C	93	345
404-11C1	25	16.9
404-167C	279	187
404-198C	190	286
204-368C1	Not determined	10
204-559C	14	9.9
204-374C	74	87.3
204-411C	28	28.4
204-484C	73	21.0
204-154C	18	17.2
204-134C 204-136C	149	134
204-130C 204-390C	171	113
204-35C	33	96.3
204-23C 204-159C	< 10	7.1
204-139C 204-291C	77	68.1
	25	24.4
204-442C	< 10	14.3
204-299C	39	21.9
204-80C	26	20.3
204-60C	< 10	10
204-331C1	70	
204-381C		61.5 7.0
204-35C2	Not determined	
204-338C1	36	19.9
204-164C	< 10	11.2
204-96C	12	7.3
204-515C	32	22.8
204-423C	18	11.9
204-400C	38	23.3



Sample No.	XRF, ppm Lead	Lab Analytical, ppm Lead
204-324C1	40	21.0
204-320C	30	28.2
204-548C	44	44.8
204-558C1	16	9.6
204-554C	36	35.2

3.5 ADDITIONAL FIELD XRF DATA

At each of the Buildings 204, 304, 404, and 707 remediation sites, several samples were collected for XRF field screening only and were not split for laboratory analyses. Samples were collected from the remediation excavation floor, side walls, and also outside of the remedial excavation. Tables 7 through 18 present this information. Refer to drawing RD-07 for the field locations of these samples.

Table 7: XRF Results for Building 204 Excavation Floor Samples

Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead
204-104C	97	204-293C	26	204-321C	32
204-105C	31	204-295C	16	204-383C	251
204-107C	14	204-296C	252	204-384C	131
204-109C	42	204-318C1	<10	204-386C1	27
204-114C	372	204-307C	324	204-387C1	10
204-115C	340	204-308C	128	204-38C	69
204-120C1	16	204-314C	<10	204-126C	252
204-121C1	81	204-315C	42	204-392C	253
204-122C1	<10	204-316C	43	204-394C	24
204-133C	302	204-319C	292	204-405C	19
204-134C	26	204-413C	<10	204-410C1	29
204-149C	<10	204-325C1	19	204-414C	13
204-153C	26	204-327C	32	204-140C	46
204-330C	<10	204-328C	9	204-428C	15
204-157C	10	204-32C	15	204-429C	12
204-186C	14	204-431C	<10	204-435C	250
204-225C	88	204-339C1	23	204-436C	13
204-248C	<10	204-341C1	79	204-439C	15
204-249C1	<10	204-34/C1	123	204-440C	<10
204-250C	21	204-348C1	17	204-431C	<10
204-251C	10	204-35C2	7	204-445C	<10
204-252C	317	204-368C1	10	204-451C	<10
204-255C	388	204-36C	193	204-452C1	17
204-257C	9	204-373C	154	204-458C	37
204-577C	33	204-431C	<10	204-45C	121
204-539C1	27	204-379C	86	204-471C	56



Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead
204-478C	215	204-540C1	43	204-579C	29
204-484C	73	204-541C	53	204-580C	215
204-496C1	<10	204-542C	<10	204-581C	148
204-502C	29	204-544C	147	204-582C	57
204-503C	94	204-547C	29	204-583C	222
204-508C	42	204-548C	44	204-60C	26
204-509C	44	204-554C	36	204-71C1	50
204-50C	184	204-558C1	16	204-75C	80
204-515C	32	204-559C	14	204-77C	48
204-522C	44	204-563C	30	204-80C	39
204-528C	105	204-567C	30	204-83C	20
204-529C	51	204-570C	36	204-91C	17
204-535C	22	204-573C	64	204-95C	21
204-538C1	26	204-574C	271	204-96C	12

Table 8: XRF Results for Building 204 Side Wall Samples

Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead
204-103W	47	204-39W	104
204-118W	202	204-421W	10
204-163W	199	204-430W	22
204-164W	263	204-438W	<10
204-191W	28	204-445W	17
204-194W	24	204-452W	25
204-213W	45	204-462W	30
204-217W	82	204-473W	64
204-219W	23	204-487W	88
204-227W	22	204-492W	42
204-236W	193	204-510W	140
204-249W	126	204-513W	26
204-252W	17	204-520W	135
204-28VV	59	204-522W	14
204-339W	36	204-577W	<10
204-375W	140		



Table 9: XRF Results for Building 204 Samples Outside Remediation Excavation

Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead
204-141	318	204-199	251	204-243	85
204-142	152	204-202	109	204-244	135
204-143	38	204-203	92	204-247	223
204-144	56	204-204	85	204-256	220
201-115	88	204-205	83	204-258	131
204-146	23	204-206	40	204-259	174
204-147	148	204-207	55	204-260	79
204-148	275	204-208	260	204-261	23
204-170	144	204-209	100	204-262	43
204-171	87	204-211	148	204-263	56
204-172	90	204-212	71	204-265	88
204-173	107	204-214	237	204-266	51
204-174	98	204-215	123	204-267	44
204-175	87	204-216	148	204-269	296
204-176	115	204-217	50	204-270	30
204-177	157	204-218	236	204-271	28
204-178	212	204-219	193	204-272	50
204-179	259	204-223	273	204-273	230
204-180	238	204-228	46	204-274	160
204-181	48	204-229	84	204-275	143
204-182	62	204-230	42	204-276	101
204-183	161	204-231	86	204-277	64
204-184	33	204-232	151	204-278	80
204-185	30	204-233	28	204-279	97
204-187	185	204-234	13	204-280	31
204-188	100	204-235	32	204-281	50
204-189	298	204-238	39	204-282	84
204-190	122	204-239	27	204-283	84
204-192	21	204-240	47	204-285	234
204-195	100	204-241	36	204-286	30
204-198	122	204-242	206	204-287	148
204-288	79	204-369	144	204-464	98
204-29	53	204-370	92	204-465	160
204-290	101	204-371	13	204-466	130
204-30	59	204-372	238	204-467	166
204-31	156	204-376	179	204-468	36
204-332	231	204-397	56	204-488	66
204-350	97	204-398	106	204-504	250
204-351	33	204-40	139	204-505	124
204-352	34	204-403	359	204-511	250
204-353	53	204-404	21	204-518	88



Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead
204-354	108	204-406	159	204-521	139
204-355	96	204-407	79	204-530	14
204-356	78	204-409	65	204-531	82
204-357	41	204-41	122	204-532	80
204-358	46	204-415	229	204-533	50
204-359	27	204-42	23	204-534	22
204-360	53	204-43	40	204-543	24
204-361	96	204-433	364	204-546	51
204-362	42	204-44	47	204-67	202
204-365	275	204-450	221	204-68	133
204-366	225	204-453	294	204-70	164
204-367	211	204-454	253		

Table 10: XRF Results for Building 304 Excavation Floor Samples

Sample Number	Total Lead (mg/kg)
304-02C	<10
304-07C	10
304-08C	10
304-100C	<10
304-115C	<10
304-13C	<10
304-14C	10
304-15C	<10
304-19C	33
304-20C	9
304-28C	<10
304-30C	<10
304-56C	21
304-61C	39
304-82C	<10
304-84C	<10



Table 11: XRF Results for Building 304 Side Wall Samples

Sample Number	XRF, ppm Lead
304-17W	30
304-22W	9
304-50W	<10
304-69W	41
304-74W	42
304-79W	12
304-97W	19
304-113W	21

Table 12: XRF Results for Building 304 Samples Outside Remediation Excavation

Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead
304-10	<10	304-48	297
304-104	30	304-49	163
304-105	38	304-50	113
304-107	61	304-51	138
304-109	53	304-52	166
304-11	27	304-53	257
304-113	62	304-68	146
304-114	104	304-69	126
304-116	109	304-70	204
304-118	72	304-72	133
304-12	<10	304-73	108
304-121	75	304-74	39
304-122	196	304-75	88
304-123	87	304-77	124
304-124	152	304-78	107
304-16	<10	304-79	55
304-17	<10	304-80	107
304-18	<10	304-81	65
304-20	42	304-90	96
304-21	266	304-91	166
304-23	51	304-92	48
304-24	182	304-94	34
304-25	101	304-95	33
304-45	66	304-96	40
304-46	155	304-97	18
304-47	216	304-98	163



Table 13: XRF Results for Building 404 Excavation Floor Samples

Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead
404-62C1	139	404-188C	98
404-113C	124	404-18C1	29
404-115C	55	404-98C2	21
404-122C2	284	404-199C2	28
404-12C	178	404-200C2	257
404-130C	60	404-201C2	26
404-139C	112	404-59C	167
404-148C	93	404-63C1	110
404-14C2	25	404-65C1	148
404-157C2	35	404-73C1	81
404-158C2	22	404-74C1	50
404-170C	36	404-78C1	92
404-172C	115	404-80C1	74
404-173C	124	414-03C1	223
404-177C2	226	404-93C2	19
404-178C2	279		

Table 14: XRF Results for Building 404 Side Wall Samples

Sample Number	XRF, ppm Lead
404-44W	28
404-106W	75
404-109W	45
404-112W	9
404-130W	54
404-133W	<10
404-151W	113
404-183W	121
404-185W	86
404-190W	153
404-194W	198
404-197W	<10



Table 15: XRF Results for Building 404 Samples Outside Remediation Excavation

Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead
404-01	19	404-185	186
404-02	195	404-19	128
404-03	60	404-20	<10
404-04	20	404-204	214
404-05	171	404-21	239
404-06	109	404-22	215
404-114	209	404-23	288
404-124	149	404-24	251
404-125	72	412-02	183
404-126	163	412-03	18
404-127	297	412-04	72
404-128	111	414-04	160
404-131	36	414-08	190
404-132	29	414-09	145
404-134	44	414-10	220
404-135	43	414-11	298
404-136	89	414-12	146
404-137	225	414-13	225
404-138	184	414-14	188
404-140	84	414-15	142
404-149	248	414-16	150
404-150	200	414-17	245
404-152	116	414-18	180
404-153	50	414-19	180
404-154	78	414-20	116
404-155	150	414-21	126
404-160	272		

Table 16: XRF Results for Building 707 Excavation Floor Samples

Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead
707-03C	161	707-260C	274
707-10C	85	707-146C	153
707-116C	208	707-268C	67
707-14C	91	707-257C	25
707-259C	34	707-284C	ND
707-165C	343	707-40C	95
707-166C	126	707-270C	86
707-180C	87	707-49C	31
707-214C	229	707-50C	9



Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead
707-222C	64	707-58C1	ND
707-231C1	44	707-74C	127
707-254C1	250	707-75C	44
707-256C1	42	707-76C	16

Table 17: XRF Results for Building 707 Side Wall Samples

Sample Number	XRF, ppm Lead
707-107W	<10
707-161W	309
707-170W	86
707-177W	213
707-188W	11
707-204W	140
707-208W	60
707-224W	<10
707-263W	66
707-275W	22
707-285W	<10
707-294W	147
707-3 7 W	202
707-69W	9
707-79W	22

Table 18: XRF Results for Building 707 Samples Outside Remediation Excavation

Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead
707-100	238	707-159	167	707-194	123
707-101	240	707-160	163	707-195	145
707-102	257	707-161	184	707-196	126
707-106	257	707-162	195	707-197	100
707-107	221	707-163	67	707-198	103
707 108	15	707-164	266	707-202	85
707-109	<10	707-167	187	707-203	79
707-117	69	707-168	35	707-204	106
707-118	110	707-169	62	707-205	145
707-119	129	707-170	65	707-206	202
707-120	175	707-171	<10	707-207	134
707-121	223	707-172	16	707-208	127
707-125	219	707-173	51	707-216	88
707-126	73	707-174	27	707-217	35



Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead	Sample Number	XRF, ppm Lead
707-127	36	707-175	<10	707-218	272
707-128	32	707-176	67	707-219	132
707-129	39	707-177	283	707-220	116
707-130	224	707-178	269	707-224	110
707-137	114	707-179	79	707 225	213
707-138	28	707-182	197	707-226	164
707-139	<10	707-183	113	707-227	107
707-140	54	707-184	103	707-228	206
707-147	38	707-185	<10	707-235	91
707-148	36	707-186	69	707-236	93
707-149	33	707-187	87	707-237	17
707-150	82	707-188	121	707-238	<10
707-151	76	707-189	140	707-239	<10
707-152	76	707-190	15	707-240	72
707-153	69	707-191	81	707-241	60
707-154	116	707-192	103	707-242	49
707-158	186	707-193	50	707-243	<10
707-244	42	707-292	63	707-65	162
707-245	<10	707-293	195	707-66	34
707-247	230	707-31	204	707-67	194
707-248	167	707-37	160	707-68	227
707-249	144	707-42	120	707-69	53
707-250	107	707-47	189	707-70	53
707-263	183	707-51	46	707-71	43
707-273	65	707-52	45	707-72	34
707-275	44	707-53	98	707-73	252
707-277	50	707-54	51	707-79	222
707-279	35	707-55	64	707-87	281
707-281	91	707-56	54	707-88	128
707-283	49	707-57	63	707-89	224
707-285	73	707-61	283	707-90	211
707-287	141	707-62	231	707-91	195
707-290	76	707-63	106	707-92	178
707-291	115	707-64	109		

APPENDIX A PHOTOGRAPHS



Photo 1. Initial Building 707 Excavation Location 6/22/99



Photo 2. Initial Building 707 Excavation 6/22/99



Photo 3. Building 707 Excavation—Original Three Trees in Center 10/15/99



Photo 4. The Three Trees in the Center of 707 Excavation 10/15/99



Photo 5. Building 707 Excavation Areas P-5, P-6, P-7 10/15/99



Photo 6. Building 707—Excavation North of 3-Trees Facing West 10/15/99



Photo 7. Building 707 Excavation East of 3-Trees Facing Toward Building 707 10/15/99



Photo 8. Building 707 Excavation—South of 3-Trees Facing Building 10/15/99

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Photo 9. Building 304 Excavation—South End of Building 10/15/99



Photo 10. Building 304 Excavation—West Side of Building 10/15/99



Photo 11. Building 304 Excavation—North Side of Building 10/15/99



Photo 12. Building 404 Excavation—North Side of Building Facing East 10/15/99



Photo 13. Building 404 Excavation—Lower Bank Area West of Building Facing South 10/15/99



Photo 14. Building 404 Excavation—North End of Lower Bank Excavation 10/15/99



Photo 15. Building 404 Excavation—Lower Bank Area Facing North 10/15/99



Photo 16. Building 404 Excavation—Excavation Ara West Facing North 10/15/99

NTCB - Port Deposit, Maryland: Small Arms Range Cleanup Action Delivery Order No. 43



Photo 17. Building 204 Excavation—North Side of Building 10/15/99



Photo 18. Building 204 Excavation—South Side Facing West - Sample Location 204-35 in Foreground 10/15/99



Photo 19. Building 204 Excavation—Northeast Corner of Excavation 10/15/99



Photo 20. Building 204 Excavation—Excavation Areas P-20, P-21, P-22 10/15/99



Photo 21. Drainage Ditch Excavation Area West Corner of Building 204—Facing South 10/15/99



Photo 22. Drainage Ditch Excavation Area West Corner of Building 204—Facing West 10/15/99

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Photo 23. Building 707 Area—Soil Stockpile Area 9/28/99



Photo 24. Building 204 Area Soil Stockpile Area Sediment Trap 9/28/99

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Photo 25. Building 404 Excavation—Soil Stockpile Area 10/15/99



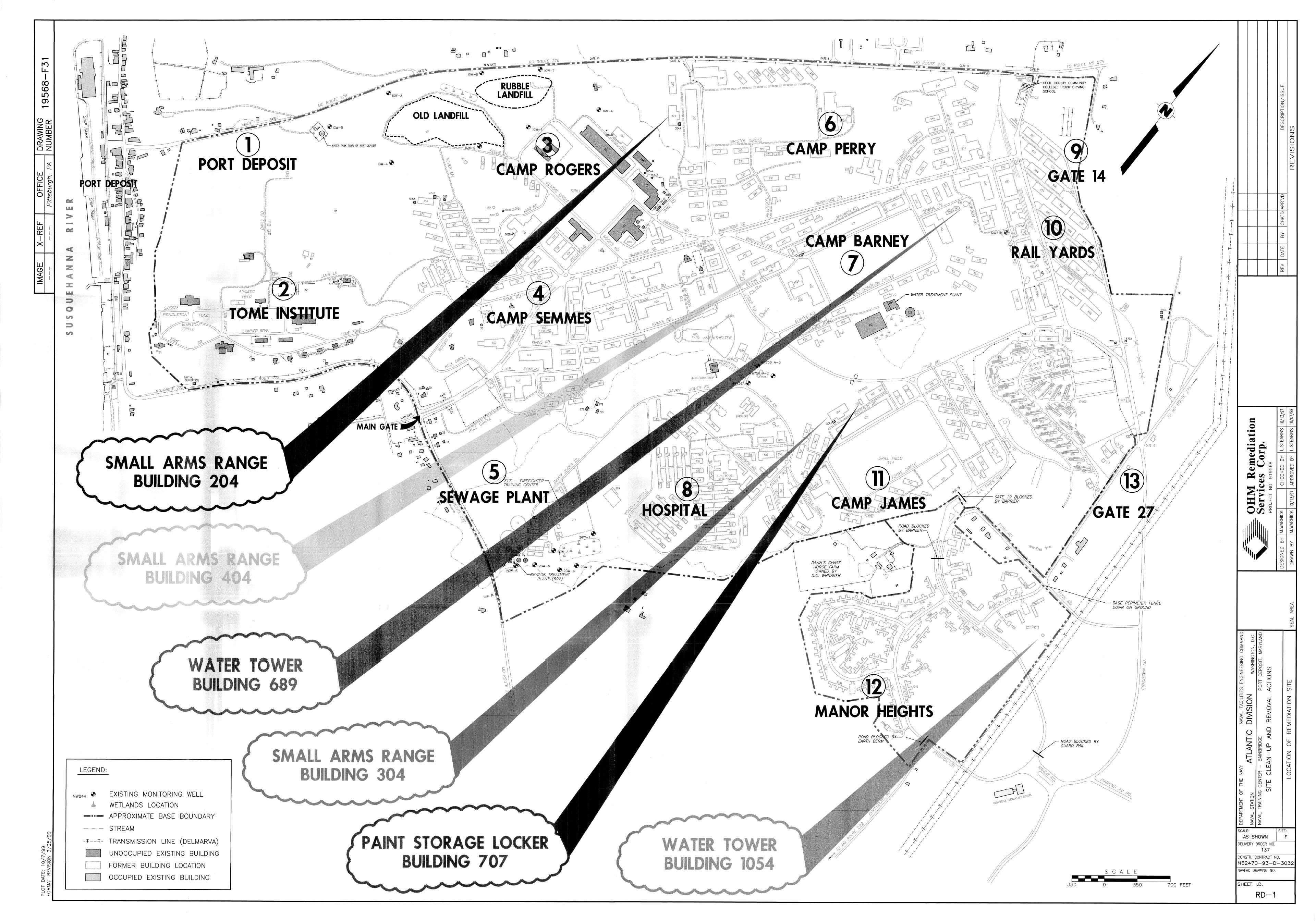
Photo 26. Building 404 Excavation—Soil Stockpile Area - Stone Entrance 10/15/99

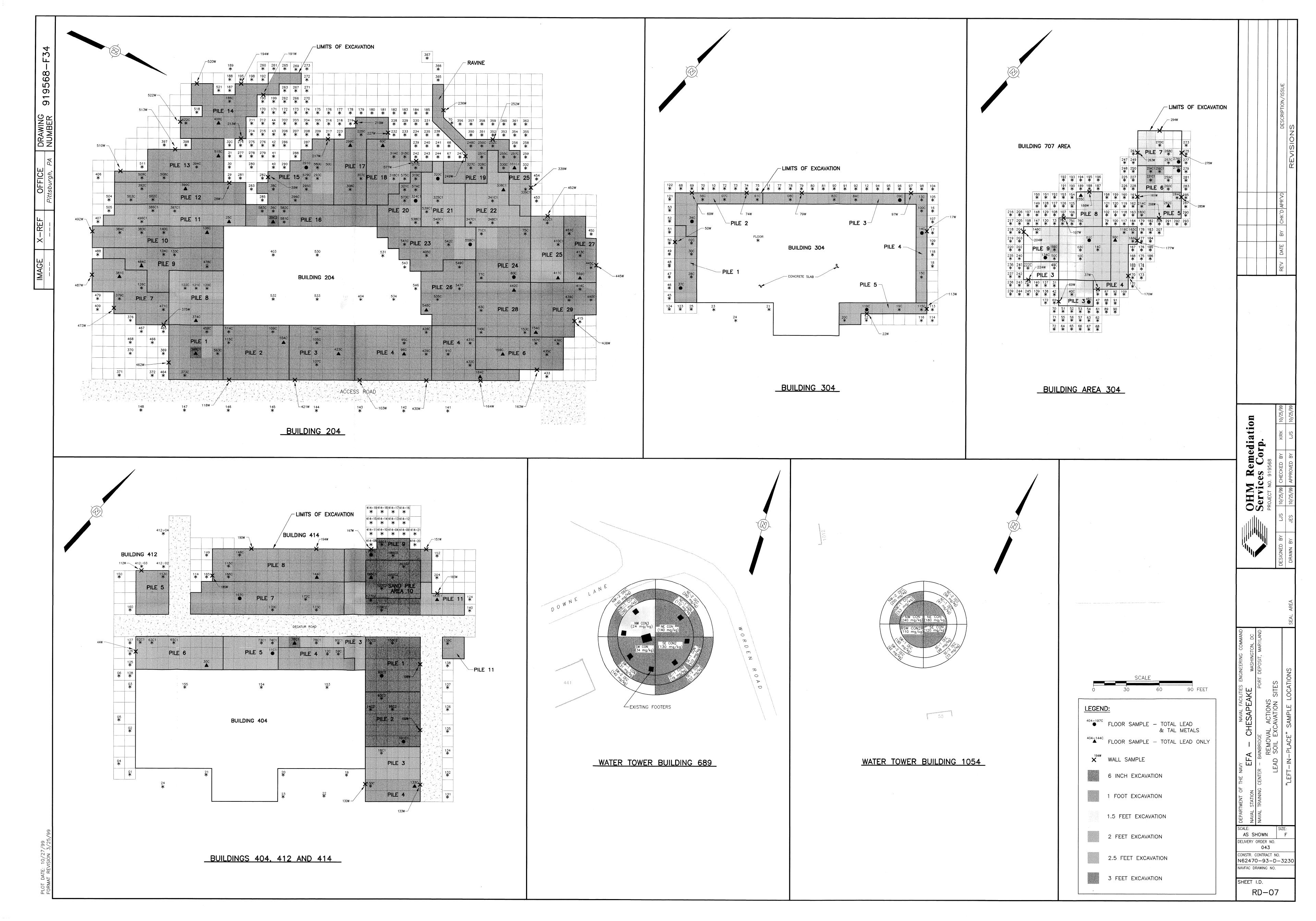
NTCB - Port Deposit, Maryland: Small Arms Range Cleanup Action Delivery Order No. 43



Photo 27. Building 404 Excavation—Soil Stockpile Area 10/15/99

APPENDIX B RECORD DRAWINGS





APPENDIX C DATA VALIDATION REPORT

DATE: October 20, 1999

SUBJECT: Data Validation for

Former Naval Training Center-Bainbridge

Port Deposit, Maryland

FROM: Michael J. Lacy, Ph.D.

Field Analytical Services Manager
IT Corporation – Trenton, New Jersey

TO: Mary Cooke - Project Contact

Hazardous Site Cleanup Division, 3HS13

OVERVIEW

Five (5) composite soil samples were analyzed for lead by EPA SW-846 Method 6010. No site-specific Quality Control samples were analyzed. Analytical Laboratory Services, located in Middletown, PA, performed the analyses.

SUMMARY

These samples were analyzed successfully.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

• The laboratory duplicate had a high relative percent difference. Lead results should be qualified estimated (J).

NOTES

There are no notes associated with this laboratory validation report.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification

(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation

(Can be used for both positive results and sample quantitation limits)

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

Other Codes

- Q = No analytical result.
- NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Site: FNTC - Bainbridge - Water Tower at Building 689 Confirmation Results

Lab: Analytical Laboratory Services Reviewer: Michael J. Lacy, Ph.D.

Date: 01 December 1999 Report Number: SDG-009

Sample I.D.	Bain689	NECon	Bain689	VE1Con	Bain6898	SE1Con	Bain689SE2Con		
Matrix	So	il	So	il	So	il	Soil		
Units	mg/	'ka	mg/	′kg	mg/	kg	mg/kg		
Date Sampled	11/20		11/20	7/98	11/20)/98	11/20/98		
Time Sampled	110	00	110	05	11.	15	1120		
% Moisture	14	4	9.	7	9.	2	9.3		
pH	N/.	A	N/	Α	N/	Α	N/A		
Dilution Factor	1.	0	1.	0	1.	0	1.0		
	Result	VQ	Result	VQ	Result	VQ	Result	VQ	
Lead	140	J	110	J	310	J	57	J	

VQ - Validation Qualifier

ATTACHMENT C

Laboratory Reported Results

Page # 1 Sample # U23205-1

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

November 25, 1998

LAB ANALYSIS REPORT

Job Name : Bainbridge NTC Customer PO#

Job Number : 03562-LS-BB Date Sampled : 11/20/98 11:00 AM

Location : BAIN 689 NE CON Date Received : 11/20/98 Sample State : Soil Composite Date Approved : 11/25/98

Collector : DB Discard Date

REPORTING TEST/PARAMETER RESULT UNITS LIMIT METHOD ALSTOTAL METALS BY ICP Lead 120 10 6010B mg/kg Lead 140 mg/kg Dry Weight WATER QUALITY Total Solids 0.1 86.0 3540B DATA PACKAGES NFESC Lev C DATA PACKAGE

Due to the failure of the matrix prep spikes, the sample was post-spiked to demonstrate that there were no matrix interferences. The acceptable spike limits according to approved EPA methods for 6010B are 75-125%.

**** Continued ****

Page # 2 Sample # U23205-1

November 25, 1998

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

QUALITY ASSURANCE REPORT

Q/A PARAMETER	RESULT	
METALS		·
TOTAL METALS BY ICP		
Lead Lead Lead ead	104	Recovery Spike Recovery Spike Recovery Spike Recovery Spike
TEST/PARAMETER TOTAL METALS BY ICP 3050B Digestion for Metals Total Solids DATA PACKAGE	PRESERVATIVE See Chain of Custody See Chain of Custody	ANALYSIS TECH DATE TIME JBH 11/22/98 15:39 JWK 11/20/98 DET 11/24/98 07:00 SMD 11/24/98

Respectfully Submitted,

W. Nane David

Laboratory Manager

Page # 1 Sample # U23205-2

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

November 25, 1998

LAB ANALYSIS REPORT

Job Name : Bainbridge NTC

Customer PO#

Date Sampled

: 11/20/98 11:05 AM

0.1 3540B

Job Number : 03562-LS-BB Location

: BAIN 689 NE-1 CON

Composite

Date Received Date Approved : 11/25/98

: 11/20/98

Sample State : Soil Collector

: DB

Discard Date

REPORTING RESULT TEST/PARAMETER UNITS LIMIT METHOD λLS TOTAL METALS BY ICP Lead 101 mg/kg 10 6010B 110 mg/kg Dry Weight Lead WATER QUALITY

DATA PACKAGES

DATA PACKAGE

Total Solids

NFESC Lev C

90.3

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

**** Continued ****

Page # 2 Sample # U23205-2

November 25, 1998

				ANALYSIS			
TEST/PARAMETER		PRESE			TECH	DATE	
TOTAL METALS BY ICP	See	Chain	of	Custody	JBH	11/22/98	15:39
3050B Digestion for Metals						11/20/98	
Total Solids	See	Chain	of	Custody	DET	11/24/98	07:00
DATA PACKAGE					SMD	11/24/98	

Respectfully Submitted,

David W. Lane Laboratory Manager

Page # 1 Sample # U23205-4

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

November 25, 1998

LAB ANALYSIS REPORT

Job Name : Bainbridge NTC Customer PO#

Job Number : 03562-LS-BB Date Sampled : 11/20/98 11:15 AM

Location : BAIN 689 SE-1 CON Date Received : 11/20/98 Sample State : Soil Composite Date Approved : 11/25/98

Collector : DB Discard Date :

TEST/PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD	
ALS					
TOTAL METALS BY ICP					
Lead	284	∼ mg/kg	9.5	6010B	
Lead	310	が mg/kg	Dry Weig	,ht	
WATER QUALITY Total Solids	90.8	ş `J	0.1	3540B	
DATA PACKAGES DATA PACKAGE	NFESC Lev (∕≰			

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

**** Continued ****

Page # 2 Sample # U23205-4

November 25, 1998

						ANALYSIS		
TEST/PARAMETER				ATIVE	TECH	DATE		
TOTAL METALS BY ICP	See	Chain	of	Custody	JBH	11/22/98	15:39	
3050B Digestion for Metals						11/20/98		
Total Solids	See	Chain	of	Custody	DET	11/24/98	07:00	
DATA PACKAGE					SMD	11/24/98		

Respectfully Submitted,

David W. Lane Laboratory Manager

Page # 1 Sample # U23205-5

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

November 25, 1998

LAB ANALYSIS REPORT

: Bainbridge NTC Customer PO# Job Name

Job Number : O3562-LS-BB Date Sampled : 11/20/98 11:20 AM

Date Received : 11/20/98 Location : BAIN 689 SE-2 CON Date Approved : 11/25/98 Sample State : Soil Composite

Collector Discard Date : DB

TEST/PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD	
ALS	·				
TOTAL METALS BY ICP Lead	52	mg/kg	10	6010B	
Lead	57	mg/kg	Dry Weig	ght	
WATER QUALITY Total Solids	90.7	જ	0.1	3540B	
DATA PACKAGES DATA PACKAGE	NFESC Lev C				

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

**** Continued ****

Page # 2 Sample # U23205-5

November 25, 1998

					ANALYSIS		
TEST/PARAMETER		PRESERV		TECH			
TOTAL METALS BY ICP	See	Chain of	Custody	JBH	11/22/98	15:39	
3050B Digestion for Metals					11/20/98		
Total Solids	See	Chain of	Custody	DET	11/24/98	07:00	
DATA PACKAGE				SMD	11/24/98		

Respectfully Submitted,

David W. Lane

Laboratory Manager

Page # 1

Sample # U23229-1

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

November 25, 1998

LAB ANALYSIS REPORT

Job Name : Bainbridge NTC Customer PO#

Job Number : 03562-LS-BB Date Sampled : 11/19/98 08:30 AM

Location : BAIN 689 SE-3 DEL Date Received : 11/20/98 Sample State : Soil Composite Date Approved : 11/25/98

Collector : DB Discard Date

TEST/PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD			
: ALS							
TOTAL METALS BY ICP Lead	221	mg/kg	9.9	6010B			
Lead	270	mg/kg Dry Weight					
WATER QUALITY Total Solids	82.1	%	0.1	3540B			
DATA PACKAGES	NFESC Lev C						

DATA PACKAGE NFESC Lev C

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

**** Continued ****

Page # 2 Sample # U23229-1

November 25, 1998

						ANAL	YSIS
TEST/PARAMETER				ATIVE	TECH		
TOTAL METALS BY ICP	See	Chain	of	Custody	JBH	11/22/98	15:39
3050B Digestion for Metals						11/20/98	
Total Solids	See	Chain	of	Custody	DET	11/24/98	07:00
DATA PACKAGE					SMD	11/24/98	

Respectful y Submitted,

David W. Lane Laboratory Manager

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation

Analytical Laboratory Services Inc. Analytical Narrative OHM/IT-Bainbridge NTC SDG-009

Sample Management

This report contains the results of the analysis of seven (7) soil samples collected on November 19 and 20, 1998. Analytical results and quality control information are summarized in this data package. The samples were analyzed as follows:

LAB ID	LOCATION	LEAD	TOTAL SOLIDS
U23205-1	BAIN 689 NE CON	*	*
U23205-2	BAIN 689 NE-1 CON	*	*
U23205-3	BAIN 689 SE CON	*	*
U23205-4	BAIN 689 SE-1 CON	*	*
U23205-5	BAIN 689 SE-2 CON	*	*
U23205-6	BAIN 689 NW CON	*	*
U23229-1	BAIN 689 SE-3 DEL	*	*

SAMPLE RECEIPT

Samples arrived at ALSI via laboratory courier on November 20, 1998. Upon receipt, the samples were inspected and compared to the enclosed chain of custody. Cooler receipt forms were filled out for the samples received. All sample bottles were preserved properly. Each sample was assigned a unique identification number (see above table). The sample information was entered into the computer system and the samples were released for analysis.

Metals

METALS by SW-846 Method 6010B

Sample handling. Seven (7) soil samples were digested by SW-846 Method 3050B. The digestates were analyzed for metals by ICP using SW-846 Method 6010B. The samples were digested and analyzed within the six month holding time established for this method.

Calibration. Initial six point calibrations were properly established and verified. On the day of analysis, a two point reslope of the initial calibration was performed which met the instrument manufacturer's requirements. A second source initial calibration standard was analyzed to verify the calibration. A laboratory control sample, identified as LSD0828-1, was digested and analyzed with this batch of samples. Recoveries were within the acceptable limits of 75-125%.

Blanks. A method blank, identified as SD0828-1 was digested and analyzed with the samples. No metals were detected in the prep blank.

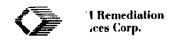
Spikes. A matrix spike / matrix spike duplicate analysis was performed on sample U23205-1. Recoveries were 130% and 156%, which are not within the acceptable limits of 75-125%. The sample was post spiked on an additional run. The post spike recoveries were 102% and 104%, which are within the acceptable limits of 75-125%. A comment was placed on the lab report.

Duplicates. A duplicate sample was performed on sample U23205-6 with a relative percent difference of 55%. The acceptable %RPD of 20% could not be achieved due to the lack of homogeneity. A comment was placed on the lab report.

Wet Chemistry

Total Solids by SM 3540B

Sample handling. Seven (7) samples were analyzed for total solids by SM 3540B.



CHAIN-OF-CUSTODY RECORD

Be 3 21290 580 LAB COPY Form 0019
Field Technical Services
Rev. 08/89

Qualet # 9911-M-545

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526																		
PRO Q CLIE	PROJECT NAME PROJECT LOCATION PROJECT CONTACT PROJECT TELEPHONE NO. PROJECT TELEPHONE NO. PROJECT TELEPHONE NO. PROJECT MANAGER/SUPERVISOR PROJECT TELEPHONE NO. PROJECT MANAGER/SUPERVISOR PRO							NUMBER OF CONTAINERS	(INE SEP COI	DICATE ARATE ITAINE		//						
ITEM NO.	SAMPLE NUMBER	DATI		IE S		GRAB	*	SAMPLE DESCRIPT INCLUDE MATRIX / POINT OF SAMPL				/\.\.\ \.\			/	/	/	REMARKS
	BAIN 689 SE-3	1/1/	083) X	4		BRULL OPA	هنة خيره	ections illy	1240	ı X					ļ		24 hr TAT
2	BAIN 689 ME CO	1/2/5	9 1100	<u>`</u> _)	4		Brow upac	374 20MO	CONFIRMATION LO!	1,40	X							3day TAT
3	BAIN 689 NE-1 C	11/20/9	8 1105	+	1	_	3 pt am	posik Que socio	CONFIRMATION	1244	x							3 day TAT
	SAW 639 SE-CO	11/2/	8 1110		7		المادر سعد	1244	. X							3 day TAT		
	BAIN 689 SE-1 CO	11/. 7				-	3 pt comp	Tita			me	ارد.		1		3 de TAT		
\Box	BAIN 689 SF-2 CO	utt	18 112	0 3	`\	_	3 pt comp	osik	CONFIRMADIAN	1/4				127	28	1		3 day TAT
	BAIN WY NW CO			, λ		1	G P+ Comp	71120	CENTHUMATION 6	1,44	17	1						3 cla, PAF
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	4											1	PLER'S S					

Sample Description	
BAIN 689 NE CON	

Form 3A Matrix Spike and Matrix Spike Duplicate Recovery Summary

	spire and			000 N		000 000			
Analysis Method: 6010B Matrix (soil/water): Soil		SDG No.:			SDG-009				
			Lab Sample ID:			U23205-1			
Units:			-	Lab File ID:		112298			
% moisture:	NA		_ In	strument ID:		SPECTRO ICP			
Date Analyzed:	11/22/98		GC Column:			NA			
		·							
A L - L -		Spike	Sample	MS		MS Recovery			eptable
Analyte LEAD		Added 100.0	Concentration	Concentration 253.0	on_	(%) 130	(1)		its (%) 75-125
LEAU		100.0	123.0	253.0		130			/5-125_
<u> </u>	·		 				-		
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		<u> </u>		MS			_		Acc.
Analyte		Spike Added	MSD Concentration	Recovery	(1)	Acceptable Limits (%)	RF (%		Lim.
Analyte LEAD		Spike Added	MSD Concentration 279.0	Recovery	(1)	=	(%		Lim.
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	6) (1	Lim.) (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	6) (1	Lim.) (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	6) (1	Lim.) (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	6) (1	Lim.) (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	6) (1	Lim.) (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	6) (1	Lim.) (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	6) (1	Lim.) (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	6) (1	Lim.) (%)
Analyte		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	6) (1	Lim. (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	6) (1	Lim.) (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	6) (1	Lim.) (%)
(1) The following qualif	fiers are used:	Added 100.0	Concentration 279.0 279.0 Values outside of Spikes diluted outside of Spikes diluted outside of Spikes diluted outside of Spikes diluted outside outside of Spikes diluted outside o	Recovery (%) 156		Limits (%) 75-125	(%	6) (1	Lim. (%)
LEAD	fiers are used:	Added 100.0	Concentration 279.0 279.0 Values outside of Spikes diluted outside of Spikes diluted outside of Spikes diluted outside of Spikes diluted outside outside of Spikes diluted outside o	Recovery (%) 156		Limits (%) 75-125	(%	6) (1	Lim. (%)
(1) The following qualif	fiers are used:	Added 100.0	Concentration 279.0 279.0 Values outside of Spikes diluted outside of Spikes diluted outside of Spikes diluted outside of Spikes diluted outside outside of Spikes diluted outside o	Recovery (%) 156		Limits (%) 75-125	(%	6) (1	Lim.) (%)

Sample Description	
BAIN 689 NE CON	

Form 7 Duplicate Summary

Analysis Method:	6010B	SDG No.:	SDG-009	
Matrix (soil/water):	Soil	Lab Sample ID:	U23205-6	
Units:	mg/kg	Lab File ID:		
Instrument ID:	SPECTRO ICP	Lab Sample Dup. ID:	U23205-6-D	
GC Column:	NA	Dup. Lab File ID:	NA	
Sample % Moisture:	NA	Dup. % Moisture:	NA	

Analyte	Sample Concentration	Duplicate Concentration	Relative Percent Difference (RPD)	(1)	Acceptable Limit
LEAD	615	1080	55.0	*	20%
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/1۱	The	following	qualifiers	are	nseq.
١.	1116	IUNUWING	uudiiileis		uscu.

Comments:	The results shown have not been corrected for moisture content.					

^{* :} Values outside of acceptable limits

		<u>-</u>
<u>-</u>		

OVERVIEW

Five (5) composite soil samples were analyzed for lead by EPA SW-846 Method 6010. No site-specific Quality Control samples were analyzed. Analytical Laboratory Services, located in Middletown, PA, performed the analyses.

SUMMARY

These samples were analyzed successfully.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

- Lead was recovered in both the matrix spike and matrix spike duplicate samples. However, the post digestion spike and laboratory control sample were recovered acceptably. The high recoveries were determined to be due to matrix effects, and the data were not qualified.
- The laboratory duplicate had a high relative percent difference. All lead data should be qualified estimated (J).

NOTES

There are no notes associated with this validation report.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification

(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation

(Can be used for both positive results and sample quantitation limits)

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be biased high. Actual value is expected to be
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

Other Codes

- Q = No analytical result.
- NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Site: FNTC - Bainbridge - Water Tower at Buildings 689 & 1054 Confirmation Results

Lab: Accutest

Reviewer: Michael J. Lacy, Ph.D.

Date: 18 October 1999 Report Number: SDG-021

Sample I.D.	Bain6898	SECon2	Bain689N	IW1Con	Bain1054	4NECon Bain1054SECon Bain1054		NWCon	Bain10541	W1Con		
Matrix	Sc	il	So	il	Soil		Soil		Soil		Soil	
Units	mg/	kg	mg/	kg	mg/	kg 💮	mg/	kg	mg/	kg	mg/l	kg
Date Sampled	12/8/	1998	12/8/	1998	12/9/	1998	12/9/1	998	12/9/1	998	12/9/1	998
Time Sampled	079	55	080	00	15	30	153	35	155	50	160	0
% Moisture	13	.3	14	.0	15	.8	16.	5	17.	6	13.	6
рH	N	Α	N/	Α	N/	A	N/A		N/A		N/A	
Dilution Factor	1.	0	1.	0	1,	0	1.0)	1.0)	1.0	
مستند معطيقه فرد	Result	VQ	Result	VQ	Result	VQ	Result	VQ	Result	VQ	Result	VQ
Lead	130		260		180		120		240		53	

VQ - Validation Qualifier

ATTACHMENT C

Laboratory Reported Results

Page # 1 Sample # II24330-1

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

December 16, 1998

LAB ANALYSIS REPORT

: Bainbridge NTC Customer PO# Job Name

Date Sampled : 12/09/98 03:30 PM Date Received : 12/10/98 Job Number : O3562-LS-BB

Location : BAIN 1054 NE CON Composite Date Approved : 12/16/98 Sample State : Soil

Collector : DB Discard Date

TEST/PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
ALS				
TOTAL METALS BY ICP Lead	150	mg/kg	10	6010B
Lead	180	mg/kg	Dry Weig	ht
WATER QUALITY Total Solids	84.2	%	0.1	3540B
DATA PACKAGES DATA PACKAGE	NFESC Lev C			

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

Environmental → Industrial Hygiene → Food Science

Page # 2 Sample # U24330-1

December 16, 1998

QUALITY ASSURANCE REPORT

Q/A PARAMETER		RESUI	JT_	<u> </u>			
WATER QUALITY Total Solids		83.	. 8	8		Dup	licate
TEST/PARAMETER		PRESE	ERV	ATIVE	TECH	ANAL DATE	YSIS TIME
TOTAL METALS BY ICP 3050B Digestion for Metals	See	Chain	of	Custody	JBH JBH	12/15/98 12/11/98	19:12
Total Solids DATA PACKAGE	See	Chain	of	Custody	SLP SJS	12/11/98 12/16/98	15:23

Respectfully Submitted,

David W. //Lane

Laboratory Manager

Page # 1 Sample # U24330-2

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

December 16, 1998

LAB ANALYSIS REPORT

Customer PO# : Bainbridge NTC Job Name

Job Number : 03562-LS-BB

Date Sampled : 12/09/98 03:35 PM
Date Received : 12/10/98
Date Approved : 12/16/98 Location : BAIN 1054 SE CON Sample State : Soil Composite

Discard Date Collector : DB

TEST/PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
ALS				
TOTAL METALS BY ICP Lead	100	mg/kg	10	6010B
Lead	120	mg/kg	Dry Weig	ght
WATER QUALITY Total Solids	83.5	%	0.1	3540B
DATA PACKAGES DATA PACKAGE	NFESC Lev C			

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

Page # 2 Sample # U24330-2

December 16, 1998

						ANAL	YSIS
TEST/PARAMETER				ATIVE	TECH		
TOTAL METALS BY ICP	See	Chain	of	Custody	JBH	12/15/98	19:12
3050B Digestion for Metals				_	JBH	12/11/98	
Total Solids	See	Chain	of			12/11/98	
DATA PACKAGE					SJS	12/16/98	

Respectfully Submitted,

David W. Lane Laboratory Manager

Page # 1 Sample # U24330-4

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

NJ 08691 TRENTON

December 16, 1998

LAB ANALYSIS REPORT

: Bainbridge NTC Customer PO# Job Name

Date Sampled : 12/09/98 03:50 PM Date Received : 12/10/98 Job Number : 03562-LS-BB

: BAIN 1054 NW CON Location Sample State : Soil Composite Date Approved : 12/16/98

: DB Discard Date Collector

TEST/PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
ALS				
TOTAL METALS BY ICP Lead	200	mg/kg	10	6010B
Lead	240	mg/kg	Dry Weig	ht
WATER QUALITY Total Solids	82.4	8	0.1	3540B
DATA PACKAGES DATA PACKAGE	NFESC Lev C			

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

Page # 2 Sample # U24330-4

December 16, 1998

						ANAL	/SIS
TEST/PARAMETER		PRESE			TECH	DATE	
TOTAL METALS BY ICP Se	ee i	Chain	of	Custody	JBH	12/15/98	19:12
3050B Digestion for Metals						12/11/98	
Total Solids Se	ee (Chain	of	Custody	SLP	12/11/98	15:23
DATA PACKAGE					SJS	12/16/98	

Respectfully Submitted,

David W. JLane Laboratory Manager



Page # 1 Sample # U24330-5

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

December 16, 1998

LAB ANALYSIS REPORT

Job Name : Bainbridge NTC Customer PO#

Location : BATN 1054 NW-1 CON Date Received : 12/10/98 Sample State : Soil Composite Date Approved : 12/16/98

Collector : DB Discard Date

TEST/PARAMETER	RESULT	UNITS	REPORTING LIMIT METHOD
ALS			
TOTAL METALS BY ICP Lead	46	mg/kg	6.0 6010B
Lead	53	mg/kg	Dry Weight
WATER QUALITY Total Solids	86.4 R	%	0.1 3540B
DATA PACKAGES DATA PACKAGE	NFESC Lev C		

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

Environmental ◆ Industrial Hygiene ◆ Food Science

Page # 2 Sample # U24330-5

December 16, 1998

QUALITY ASSURANCE REPORT

Q/A PARAMETER	-	RESUL	<u>T</u>	_			
METALS							
TOTAL METALS BY ICP							
Lead		39 (2	mg	g/kg	Dup.	licate
			•			ANAL	YSIS
TEST/PARAMETER		PRESE:	RVA	TIVE	TECH	DATE	TIME
TOTAL METALS BY ICP	See	Chain	of	Custody	JBH	12/15/98	19:12
3050B Digestion for Metals					JBH	12/11/98	
al Solids	see	Chain	of	Custody	SLP	12/11/98	15:23
DATA PACKAGE			•		SJS	12/16/98	

Respectfully Submitted,

David W. Lane Laboratory Manager



Page # 2 Sample # U24974-3

December 29, 1998

QUALITY ASSURANCE REPORT

Q/A PARAMETER	_	RESULT	·			····
METALS						
TOTAL METALS BY ICP						
Lead		20 A	m	g/kg	Dup.	licate
		•			ANAL	YSTS
TEST/PARAMETER		PRESERV	ATIVE	TECH	DATE	TIME
TOTAL METALS BY ICP	See	Chain of	Custody	JBH	12/23/98	10:39
3 'B Digestion for Metals				JBH	12/22/98	
Talal Solids	See	Chain of	Custody	PAM	12/22/98	10:00
DATA PACKAGE				SMD	12/22/98	

Respectfully Submitted,

David W. Lane Laboratory Manager

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation

Analytical Laboratory Services Inc. Analytical Narrative OHM/IT-Bainbridge NTC SDG-021

SAMPLE MANAGEMENT

This report contains the results of the analysis of eight (8) soil samples collected on December 8 and 9, 1998. Analytical results and quality control information are summarized in this data package. The samples were analyzed as follows:

LAB ID	LOCATION	LEAD	TOTAL SOLIDS
U24323-1	BAIN 689 NW CON 2	*	*
U24323-2	BAIN 689 SE CON 2	*	*
U24323-3	BAIN 689 NW-1 CON	*	*
U24330-1	BAIN 1054 NE-CON	*	*
U24330-2	BAIN 1054 SE CON	*	*
U24330-3	BAIN 1054 SW CON	*	*
U24330-4	BAIN 1054 NW CON	*	*
U24330-5	BAIN 1054 NW-1 CON	*	*

SAMPLE RECEIPT

Samples arrived at ALSI via laboratory courier on December 10, 1998. Upon receipt, the samples were inspected and compared to the enclosed chain of custody. Cooler receipt forms were filled out for the samples received. All sample bottles were preserved properly. Each sample was assigned a unique identification number (see above table). The sample information was entered into the computer system and the samples were released for analysis.

LEAD by ICP SW-846 Method 6010B

Sample handling. Eight (8) soil samples were digested by SW-846 Method 3050B. Digestates were analyzed for metals by ICP, using SW-846 Method 6010B. The samples were digested and analyzed within the six month holding time established for this method.

Calibration. Method calibrations are performed every six months according to instrument manufacturer's standards. A high standard and a blank are run daily. In addition, second source continuing calibration standards are analyzed to verify the calibration. Laboratory

controls sample (LCS), identified as LSD0835-1, was digested and analyzed with this batch of samples. The LCS was within the acceptable limits of 70-130% for lead.

Blanks. The method blank, identified as SD0835-1, was digested and analyzed with these samples. No metals were detected in the blanks.

Spikes. A matrix spike / matrix spike duplicate analysis was performed on sample U24323-1. Recovery was not within acceptable limits of 75-125% for lead. A post digestion spike was performed on a tenfold dilution of this sample, but not reported because the sample concentration was greater than ten times the spiking amount. The relative percent difference (RPD) between the two post digestion spikes performed was within 20% for lead.

Duplicates. A prep duplicate was performed on sample U24330-5. The relative percent (RPD) between the sample and the duplicate was within 20 % for lead.

Total Solids by SM 3540B

Sample handling. Eight (8) soil samples were analyzed for total solids by SM 3540B.

Duplicates. A duplicate analysis was performed on sample BAIN 1054 NE CON. The relative percent difference was within 5%, the acceptable limit.

Page # 1

Sample # U24323-2

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

December 16, 1998

LAB ANALYSIS REPORT

Customer PO# : Bainbridge NTC Job Name

Date Sampled : 12/08/98 07:55 AM
Date Received : 12/10/98 Job Number : O3562-LS-BB

: BAIN 689 SE CON 2 Location Composite Date Approved : 12/16/98 Sample State : Soil

Discard Date Collector : DB

REPORTING RESULT UNITS LIMIT METHOD TEST/PARAMETER ALS TOTAL METALS BY ICP 9.9 6010B 110 mg/kg Lead 130 mg/kg Dry Weight Lead WATER QUALITY Total Solids 86.6 0.1 3540B DATA PACKAGES

NFESC Lev C DATA PACKAGE

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.



Page # 2 Sample # U24323-2

December 16, 1998

						ANAL	YSIS
TEST/PARAMETER					TECH		
TOTAL METALS BY ICP	See	Chain	of	Custody	JBH	12/15/98	19:12
3050B Digestion for Metals						12/11/98	
Total Solids	See	Chain	of	Custody	SLP	12/11/98	15:23
DATA PACKAGE					SJS	12/16/98	

Respectfully Submitted,

Laboratory Manager

Page # 1

Sample # U21323-3

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

December 16, 1998

LAB ANALYSIS REPORT

: Bainbridge NTC Customer PO# Job Name

Date Sampled : 12/08/98 08:00 AM Date Received : 12/10/98 Job Number : 03562-LS-BB

: BAIN 689 NW-1 CON Location Composite Date Approved : 12/16/98 Sample State : Soil

: DB Discard Date Collector

TEST/PARAMETER	RESULT	UNITS	REPORTING LIMIT	G METHOD
ALS				
TOTAL METALS BY ICP Lead	220	mg/kg	10	6010B
Lead	260	mg/kg	Dry Weig	ght
WATER QUALITY Total Solids	86.0	રુ	0.1	3540B
DATA PACKAGES DATA PACKAGE	NFESC Lev C			

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.



Page # 2 Sample # U24323-3

December 16, 1998

						ANAL	rsis
TEST/PARAMETER				ATIVE	TECH		
TOTAL METALS BY ICP S	ee	Chain	of	Custody		12/15/98	19:12
3050B Digestion for Metals						12/11/98	
Total Solids S	ee	Chain	of	Custody		12/11/98	15:23
DATA PACKAGE					SJS	12/16/98	

Respectfully Submitted,

David W. Lane

Laboratory Manager

Sample Description
BAIN 689 NW CON 2

Form 3A Matrix Spike and Matrix Spike Duplicate Recovery Summary

Analysis Method:	6010B		_	SDG No.:		SDG-021			
Matrix (soil/water):			_ Lat	Sample ID:		U24323-1		_	
Units:				Lab File ID:	121598				
% moisture:			Instrument ID: SPECTRO ICP GC Column: NA				<u> </u>		
Date Analyzed:	12/15/98		-	GC Column:		<u>NA</u>			
							, ,		
		Spike	Sample	MS		MS Recovery			ptable
Analyte		Added	Concentration	Concentration	on	(%)	(1)		ts (%)_
LEAD		100	2280	1250		-1030			75-125
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		0 "	Non	MS					Acc.
A		Spike	MSD	Recovery		Acceptable	RF		Lim.
Analyte		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	o) (1)	Lim. (%)
Analyte LEAD			1	Recovery	(1)		ī	o) (1)	Lim.
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	o) (1)	Lim. (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	o) (1)	Lim. (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	o) (1)	Lim. (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	o) (1)	Lim. (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	o) (1)	Lim. (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	o) (1)	Lim. (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	o) (1)	Lim. (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	o) (1)	Lim. (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	o) (1)	Lim. (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	o) (1)	Lim. (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	o) (1)	Lim. (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	o) (1)	Lim. (%)
		Added	Concentration	Recovery (%)	(1)	Limits (%)	(%	o) (1)	Lim. (%)
(1) The following qualif		Added 100 * : D :	Values outside of Spikes diluted ou	Recovery (%) 290		Limits (%) 75-125	(%	o) (1)	Lim. (%)
LEAD		Added 100 * : D :	Values outside of Spikes diluted ou	Recovery (%) 290		Limits (%) 75-125	(%	o) (1)	Lim. (%)
(1) The following qualif		Added 100 * : D :	Values outside of Spikes diluted ou	Recovery (%) 290		Limits (%) 75-125	(%	o) (1)	Lim. (%)



CHAIN-OF-CU^TODY RECORD

Form 0019
F Technical Services
Rev. 08/89

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ITEM NO	Nt		DATE	TIME	8	5	'	POINT OF SAMPLE)	ŀ		//	//	//	///	REMARKS
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*	Burk				LX.		CONTIRMATION:	SAMPLE AFTER 1 3 6" FREAVAILAN	1244	$\perp X$	1		$\bot \bot$	44	
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P	<u> </u>	54 SE CON	12/9/48	1535	1X			MALE VILLE IN P., EXMUNDON	114.	$\perp X$	1		1		
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1 1	! !		12/41	.,	J.,		BeawSac	FROM WATER HOWER 1004	1.1						Le pl composite
	B4N 10	054 NW CON	12/4/98	1550	 X			MPLE AFTER IN 6" EXCAUATION	1/4/12	X	₩-		+	++	
tal	1	1	701	[1		Brown Die	FROM WARE TOWN 1057	1,1					[]	3 at composite
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OVERVIEW

Three (3) composite soil samples were analyzed for lead by EPA SW-846 Method 6010. No site-specific Quality Control samples were analyzed. Analytical Laboratory Services, located in Middletown, PA, performed the analyses.

SUMMARY

These samples were analyzed successfully.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

Lead was recovered in both the matrix spike and matrix spike duplicate samples. However, the post
digestion spike and laboratory control sample were recovered acceptably. The high recoveries were
determined to be due to matrix effects, and the data were not qualified.

NOTES

The duplicate sample had a concentration of 20 mg/kg, compared to the original concentration of 21 mg/kg.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification

(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation

(Can be used for both positive results and sample quantitation limits)

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

Other Codes

- Q = No analytical result.
- NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Site: FNTC - Bainbridge - Water Tower at Buildings 689 & 1054 Confirmation Results

Lab: Accutest

Reviewer: Michael J. Lacy, Ph.D.

Date: 18 October 1999 Report Number: SDG-025

Sample I.D.	Bain6891	VWCon3	Bain6899	E1Con2	Bain1054	SWCon2	
Matrix	S	oil	Sc	oil	Soil		
Units	mg/kg		ma/ka		ma	/kg	
Date Sampled	12/18/1998		12/18	/1998	12/18	/1998	
Time Sampled	1050		1040		11	1120	
% Moisture	13	1.0	7.	6	11	.8	
pН	N.	/A	N/	Α	N	/A	
Dilution Factor	1.	.0	1.	.0	1	.0	
	Result	VQ	Result	VQ	Result	VQ	
Lead	24	J	79	J _.	110	J	

ATTACHMENT C

Laboratory Reported Results



Page # 1 Sample # U24974-1

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

December 29, 1998

LAB ANALYSIS REPORT

Job Name : Bainbridge NTC Customer PO#

Job Number : 03562-LS-BB Date Sampled : 12/18/98 11:20 AM

Location : BAIN 1054 SW CON 2 Date Received : 12/21/98 Sample State : Soil Composite Date Approved : 12/29/98

Collector : DB Discard Date :

REPORTING TEST/PARAMETER RESULT UNITS LIMIT METHOD M. ALS TOTAL METALS BY ICP 93 mg/kg 10 6010B Lead 110 mg/kg Dry Weight Lead WATER QUALITY Total Solids 0.1 3540B 88.2 DATA PACKAGES DATA PACKAGE NFESC Lev C

Due to the failure of the matrix prep spikes, the sample was post-spiked to demonstrate that there were no matrix interferences. The acceptable spike limits according to approved EPA methods for 6010B are 75-125%.

Page # 2 Sample # U24974-1

December 29, 1998

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

QUALITY ASSURANCE REPORT

Q/A PARAMETER	_	RESUL	T_	_		 .		
METALS								
TOTAL METALS BY ICP								
Lead		13	0		Reco	-	Spil	
Lead		20	6	%	Recor	very	Spil	ce
ead		10	2	8	Recor	very	Spil	
ead		10	7	8	Reco	very	Spil	ce
WATER QUALITY								
Total Solids		89.	3	ક			Dup:	Licate
							ANAL	rsis
TEST/PARAMETER _		PRESE	RV	ATIVE	TECH	_ D.	ATE_	TIME
TOTAL METALS BY ICP	See	Chain	of	Custody	JBH	12/2	3/98	10:39
3050B Digestion for Metals					JBH	12/2	2/98	
Total Solids	See	Chain	of	Custody	PAM	12/2	2/98	10:00
DATA PACKAGE				-	SMD	12/2	2/98	

Respec**h**tylly Submitted,

David W. Lane Laboratory Manager

Page # 1 Sample # U24974-2

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

December 29, 1998

LAB ANALYSIS REPORT

Customer PO# Job Name : Bainbridge NTC

: 12/18/98 10:40 AM Job Number : 03562-LS-BB Date Sampled

Date Received Location : BAIN 689 SE-1 CON 2 : 12/21/98 Date Approved : 12/29/98 Sample State : Soil Grab

Discard Date Collector : DB

TEST/PARAMETER	RESULT	UNITS	REPORTING	G METHOD
N. ALS			,	
TOTAL METALS BY ICP Lead	73	mg/kg	10	6010B
Lead	79	mg/kg	Dry Weig	ght
WATER QUALITY Total Solids	92.4	%	0.1	3540B
DATA PACKAGES DATA PACKAGE	NFESC Lev C			

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.



Page # 2 Sample # U24974-2

December 29, 1998

						ANAL	YSIS
TEST/PARAMETER				ATIVE _	TECH		
TOTAL METALS BY ICP	See	Chain	of	Custody	JBH	12/23/98	10:39
3050B Digestion for Metals						12/22/98	
Total Solids	See	Chain	of	Custody	PAM	12/22/98	10:00
DATA PACKAGE					SMD	12/22/98	

Respectfully Submitted,

David W. Wane Laboratory Manager



Page # 1 Sample # U24974-3

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

December 29, 1998

LAB ANALYSIS REPORT

Job Name

: Bainbridge NTC

Customer PO#

: 12/18/98 10:50 AM

Job Number Location : BAIN 689 NW CON 3

: O3562-LS-BB

Date Sampled Date Received

: 12/21/98

Sample State : Soil

Composite

Date Approved

: 12/29/98

Collector

Discard Date

REPORTING

			KELOKITING
TEST/PARAMETER	RESULT	UNITS	LIMIT METHOD
ALS			
TOTAL METALS BY ICP Lead	21	mg/kg	10 6010B .
Lead	24	mg/kg	Dry Weight
WATER QUALITY Total Solids	87.0	&	0.1 3540B

DATA PACKAGES

DATA PACKAGE

NFESC Lev C

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation

Analytical Laboratory Services Inc. Analytical Narrative OHM/IT-Bainbridge NTC SDG-025

SAMPLE MANAGEMENT

This report contains the results of the analysis of six (6) soil samples collected on December 18, 1998. Analytical results and quality control information are summarized in this data package. The samples were analyzed as follows:

LAB ID	LOCATION	LEAD	PESTICIDES	TOTAL SOLIDS
U24974-1	BAIN 1054 SW CON2	*		*
U24974-2	BAIN 689 SE-1 CON2	*		*
U24974-3	BAIN 689 NW CON3	*		*
U24974-4	BAIN 683 E6-1		*	*
U24974-5	BAIN 683 E8-1		*	+
U24974-6	BAIN 683 D6-2		*	*

SAMPLE RECEIPT

Samples arrived at ALSI via laboratory courier on December 19, 1998. Upon receipt, the samples were inspected and compared to the enclosed chain of custody. Cooler receipt forms were filled out for the samples received. All sample bottles were preserved properly. Each sample was assigned a unique identification number (see above table). The sample information was entered into the computer system and the samples were released for analysis.

Pesticides by 8081A

Samples. Samples in this deliverable group were extracted by EPA Method 3550B and flurosil cleaned by Method 3620C. Sample BAIN 1054 SW CON2 (U24974-1) was lost during the initial clean-up, so it was re-extracted. All extractions and clean-ups were performed within the fourteen day hold time recommended by the method. The sample extract were analyzed by Method 8081A within forty days of extraction as recommended by the method.

Blanks. The method blanks associated with the 8081A samples in this deliverable group were PP456-1 and PP457Y-1. There were no detections in the method blanks. The method blank summary forms are enclosed.

Calibration. The samples in this deliverable group were analyzed under two sets of initial calibrations. Samples BAIN683E8-1 and BAIN683D6-2 were analyzed under calibrations conducted on December 23, 1998. BAIN683E6-1 was analyzed under the initial calibrations conducted on December 30, 1998. The appropriate initial calibration forms for the primary analytical column are enclosed.

Surrogates. Surrogate recovery forms are enclosed. Surrogate recoveries were acceptable for the samples in this deliverable group.

LCS. PP456-1LCS and PP457Y-1LCS were the laboratory control samples extracted with the samples in this group. The appropriate summary forms are enclosed. All recoveries were acceptable.

Matrix Spike. Matrix spikes of the samples in this deliverable group were not analyzed. The samples were analyzed at large dilutions due to sample matrix.

Detections. 4,4'-DDT, 4,4'-DDE, and 4,4'-DDD were tentatively identified on the primary column (RTX-5) in one or more samples in this group. Qualitative verification was provided on a second column of dissimilar phase (RTX-CLPcst).

Interferences. The sample extracts were analyzed at a dilution in the pesticides analysis due to sample matrix.

Miscellaneous. A high bias was observed for the target analyte heptachlor in the closing calibration verification check standards following the samples in this deliverable group. Heptachlor was not detected in the samples in this group. Method 8000B specifies that have a high bias with no detections is acceptable. Samples were not re-analyzed.

TOTAL METALS by SW-846 Method 6010B

Sample handling. Three (3) soil samples were digested by SW-846 Method 3050B. Digestates were analyzed for metals by SW-846 Method 6010B. The samples were digested and analyzed within the six month holding time established for this method.

Calibration. Method calibrations are performed every six months according to instrument manufacturer's standards. A high standard and a blank are run daily. In addition, second source continuing calibration standards are analyzed to verify the calibration. The laboratory control sample (LCS), identified as LSD0838-1, was digested and analyzed with this batch of samples. The LCS was within the acceptable limits of 75-125% for lead.

Blanks. The method blank, identified as SD0838-1, was digested and analyzed with these samples. No metals were detected in the blank.

Spikes. A matrix spike / matrix spike duplicate analysis was performed on sample U24974-1. The matrix spike and matrix spike duplicate recoveries were not within acceptable limits of 75-125% for lead due to the sample matrix, therefore post spikes were done. The post spikes were analyzed and they were within the acceptable limits of 75-125%. A comment was added to the lab report.

Duplicates. A prep duplicate was performed on sample U24974-3. The relative percent difference (RPD) between the sample and the duplicate was within 20 % for lead.

TOTAL SOLIDS by SM 3540B

Sample handling. Six (6) soil samples were analyzed for total solids by SM 3540B.

Duplicates. A duplicate analysis was performed on sample BAIN 1054 SW CON 2. The relative percent difference was within 5%, the acceptable limit.



CHAIN-OF-CUSTODY RECORD Ander MI M-545

34 Lescours des Missolitant PA 179 712 994 5541

TRANSFER 3

Form 0019
Field Technical Services
190584
Rev. 08/89

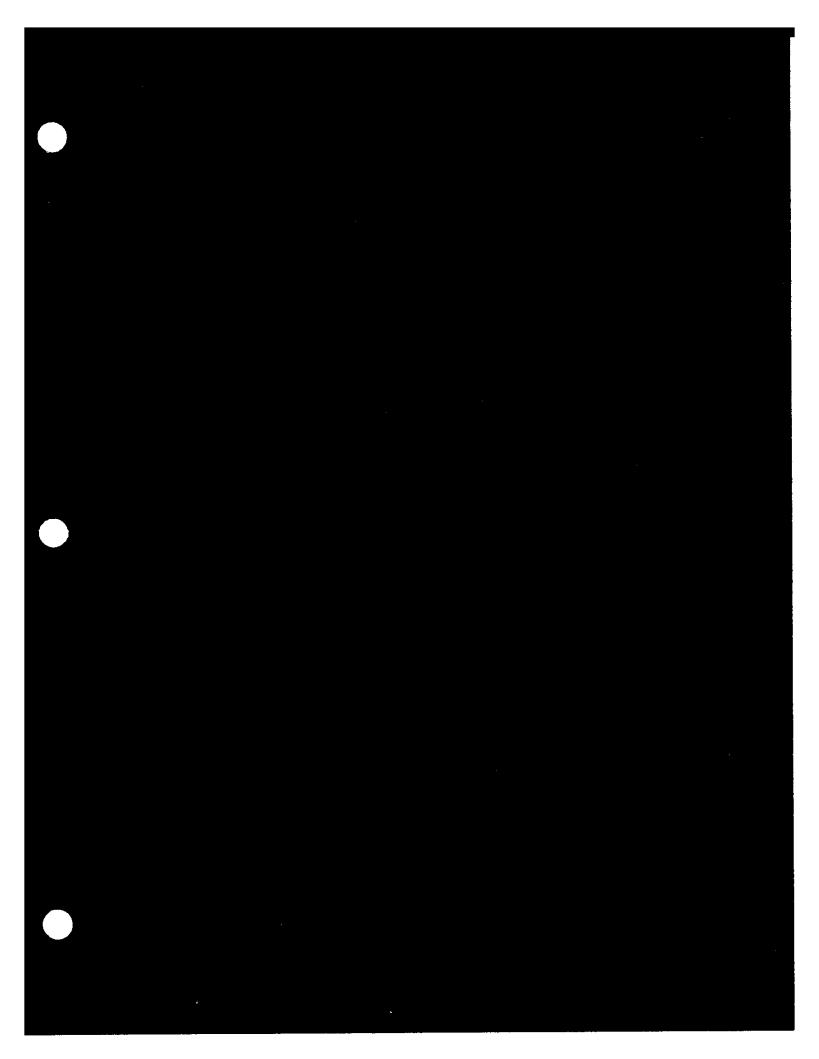
O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-055											419-	423-	-352	6		-					
PAC	1950 ENT'S REI	ME BRIDGE PROJECT PRESENTATIVE NK ZES	DeB.	ict PA B	u/kh	LARRI STRARNS CHAZ CRANSHALL TO															
ITEM NO.	S# NU	MPLE JMBER		TIME		1	S (I	SAMPLE DESCRIPTION INCLUDE MATRIX AND POINT OF SAMPLE)	90			REMARKS									
1	Bajrd K	ः ऽइपुरुष्यरक्षयः	12/15/98	1120	X		Brown Son	From WAREX TOWER HAY - AFTER 2" 6" EVERUADA.	5 //4	, [4										
2	BAIN 6	a se-l cons	718/95	1040		X	BROWN SOM GRAB SAMPLE	FROM WARDLE TOMER LOBD NO REFECTIVITIES JUST SAM		or.	X						ig				
٦		E NO WA	12/18/48	1050	X		BROWN JOH 5 pt Composite	AFTER 3 " " EYCAVATION	1/40		1										
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	8	·									2000	01 FD:-		AT 150							
Γ	N	- 					V					ł		SIGN	TURE						

Sample Description										
BAIN 1054 SW CON 2										

Form 3A Matrix Spike and Matrix Spike Duplicate Recovery Summary

Analysis Method:	6010B			SDG No.:		SDG-025	_			
Matrix (soil/water): Units:	Soil mg/kg		. Lab	Sample ID: Lab File ID:		U24974-1 122398				
% moisture:	NA	, <u></u>	•	strument ID:		SPECTRO D I	CP			
Date Analyzed:	12/23/98		•	GC Column:		NA				
Analyte		Spike Added	Sample Concentration	MS Concentration	on	MS Recovery (%)	(1)		ptable ts (%)	
EAD		100	93	223_		130			5-125	
				·						
			<u> </u>				H			

···			1	MS			1		Acc.	
		Spike	MSD	Recovery		Acceptable	RE	D	Lim.	
Analyte		Added	Concentration	(%)	(1)	Limits (%)	(9		(%)	
··					(1)	Limits (%) 75-125		6) (1)	(%) 20	
··	-	Added	Concentration	(%)	(1)	` '	(%	6) (1)		
··		Added	Concentration	(%)	(1)	` '	(%	6) (1)		
··		Added	Concentration	(%)	(1)	` '	(%	6) (1)		
··		Added	Concentration	(%)	(1)	` '	(%	6) (1)		
··		Added	Concentration	(%)	(1)	` '	(%	6) (1)		
··		Added	Concentration	(%)	(1)	` '	(%	6) (1)		
··		Added	Concentration	(%)	(1)	` '	(%	6) (1)		
		Added	Concentration	(%)	(1)	` '	(%	6) (1)		
··		Added	Concentration	(%)	(1)	` '	(%	6) (1)		
The following qualif		Added 100	Values outside or Spikes diluted ou	(%) 206 facceptable list		75-125	(%	6) (1)		
Analyte EAD 1) The following qualificomments: Results sh		Added 100	Values outside or Spikes diluted ou	(%) 206 facceptable list		75-125	(%	6) (1)		
The following qualif		Added 100	Values outside or Spikes diluted ou	(%) 206 facceptable list		75-125	(%	6) (1)		



DATE: October 20, 1999

SUBJECT: Data Validation for

Former Naval Training Center-Bainbridge

Port Deposit, Maryland

FROM: Michael J. Lacy, Ph.D.

Field Analytical Services Manager
IT Corporation – Trenton, New Jersey

TO: Mary Cooke - Project Contact

Hazardous Site Cleanup Division, 3HS13

OVERVIEW

Eleven (11) soil samples were analyzed for lead by EPA SW-846 Method 6010. Eight of these samples were then analyzed for TAL metals by Methods 6010/7471. No site- specific Quality Control samples were analyzed. Accutest, located in Orlando, FL, performed the analyses.

SUMMARY

These samples were analyzed successfully.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

- The lead-only method blank contained lead at greater than the instrument detection limit. Sample
 results with concentrations less than five (5) times the blank concentration are qualified as blank
 contaminated (B).
- Lead was recovered very low (<30%) in the matrix spike sample associated with samples -262C, -276C, -01C, -46C, -98C, -155C and -37C. The positive results for these samples will be qualified biased low (L). The TAL metals antimony, arsenic, calcium, cobalt, lead, potassium, sodium, thallium and vanadium were recovered out of control in the matrix spike sample associated with the samples -01C, -46C, -37C, -34C, -09C, -14C and -119C. All will be qualified low, except lead, which will be qualified high (K).
- The lead-only serial dilution sample associated with samples -262C, -276C, -01C, -46C, -98C, -155C and -37C was recovered high. The TAL metals serial dilution sample associated with samples -262C, -01C, -46C, -37C, -34C, -09C, -14C and -119C had an elevated recovery of aluminum, barium, calcium, chromium, iron, lead, magnesium, manganese, potassium, vanadium and zinc. The results for this analytes should be qualified estimated (J).

NOTES

- Lead was recovered low in the matrix spike and matrix spike duplicate associated with samples -34C, -09C, -14C and -119C. The sample concentrations were more than four (4) times the spike concentration.
- The average relative percent difference between the total lead results and lead results from the TAL metals analyses for the eight (8) samples that had both analyses performed is 16.6 percent

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification

(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation

(Can be used for both positive results and sample quantitation limits)

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

Other Codes

- Q = No analytical result.
- NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Site: FNTC - Bainbridge - Small Arms Ranges Confirmation Results

Lab: Accutest

Reviewer: Michael J. Lacy, Ph.D.

Date: 21 October 1999 Report Number: F4951

Sample I.D.	707-262	2C 1	737-27	6C	707-01	С	707-46	SC I	707-98	3C	707-15	5C	304-37	'C	304-34	IC	304-09	9C	304-14	IC	304-119	9Ċ
Matrix Soil			Soil		Soil	Soil Soil		Soil		Scil		Soil		Soil		Soil		Soil		Soil	1	
Units	Annual Control of the		mg/kg		mg/kg		mg/k	mg/kg mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		
Date Sampled	. 22		9/23/99			9/23/99 9/23/99				9/23/9	9/23/99 9/23/99		9/23/99		9/23/99		9/23/99		9/23/99			
Time Sampled	1127		1130				1448	3	1451	1451 14		, 1	1645		1650		1655		1700		1705	
% Moisture	10.0		10.7		13.5		15.0)	9.9		154		5.2		9.2		9.1		9.9		6.7	
ρΗ	N/A		N/A		N/A		N/A		N/A	N/A N/A		N/A		N/Ā		N/A		N/A		N/A		
Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
	Result	VQ	Result	VQ	Result	VQ	Result	VQ	Result	VQ	Result	VQ	Result	VQ	Result	VQ	Result	VQ	Result	νQ.		VQ
Lead	37.1	JL	18.9	JL	65.6	JL	63.1	JL	41.8	JL	19.1	JL	7.8	JL	9.2	J	10.3	LJ	8.2	J	4.7	J
14400 14800 14800 14800 14800 14800 14800 1																						
Aluminum			19500		15400	J	13700	J					14100	J	13400	J	18500	JL JL				
Antimony			0.68	JB	4.1	JBL	0.36	JBL					1.3	JL	0.78	JL	0.86	JL	0.85	JL	0.48	JL
Arsenic			3.0	В	3.0	BL	2.3	BL		ļ		l	3.9	-	2.3	- '	4.5		4.1 35.3	L .	33.1	JL
Barium			42.1		40.2	J	39.8	J.					30.9	. J	44.6	١٦	38	J	0.88	,	0.75	
Beryllium			_C.79	В	0.77	В	0.83	В				ļ · . ·	0.55		0.74	١.,	0.81			. U	<0.04	lul
Cadmium			<0.04	U	<0.04	U	<0.04	U				ļ	<0.03	וווו	<0.04	l u	<0.03 387	JL	<0.03 448	JL	575	JL
Calcium			321	J	236	JBL	261	JBL					870	JL	1410	JL	20	JL	16.6	J	3.8]
Chromium			20.6		7.8	JB	5.4	JB	:				24.1	J	15.0 6.7	JL	6.5	JL	9.5	JL	1.7	Jil
Cobalt			5.3	В	3.4	JBL	3.9	JBL	· · · ·				$\frac{3.7}{5.3}$	JL	6.3]	112	JL	10.1	. JL .	5.8	"
Copper		ļ	5.9		4.5		2.8	ļ <u>.</u> .	L -	<u></u>					15400	l	22800		2100	ļ _i	9000	l- , l
Iron			16800		13000	J	10600	J					22400	J		إزا		i iv	8.9	JK	5.5	JK
Lead			28.1	В	67.6	JK	68.0	JK					10.8	JK J	10.2	JK	12.2	JK	1750	J.	1210	
Magnesium		1	1310		1110	J	820	<u>J</u>				<u> </u>	783		1510		2140		261	'	29.3] "]
Manganese			64.8		56.9	J	44.1	J				ļ	70.2	ļ	115 0.01		14 <u>0</u> 0.01	J	0.02	1	<0.01	Ü
Mercury	<u></u>		0.01	J	0.01	J	0.02	Ī	=				7.1	J	7.8		10.2	'	8.7	٠,	2.2	J
Nickel			B.5	В	4.5	В	4.1	JB		ł	=		449	J.	668	JL	973	ال	988	JĽ	1420	ابزا
Potassium		1	734	۱	1070	JL	633	JL				-	1	U	<0.22	Ü	<0.20	Ü	<0.20	Ü	<0.23	10
Selenium			<0.22	U	<0.22	U	<0.22	Ü					<0.20	Ü		Ιŭ	<0.1	Ιü	<0.09	Ιŭ	<0.11	انا
Silver			<0.10	Ū	<0.10	U	<0.11	JL			- -		<0.1 236	JL	<0.11 216	l JL	105	JL	104	JĽ	270	JL
Sodium			246	J	228	JL	210	1					- 236 ≺0.27		<0.29	UL	<0.27	UL	<0.26	0	<0.30	0
Thallium			<0.29	L U	<0.29		<0.30	UL					38.3	JL	24.0	JL	398	JL	34.3	jί	7.2	ایّرا
Vanadium			27.9		16.1	JL	11.5	JL			ļ		8.1	JL	18.4	"	235	١	19.8	"-	12.3	1
Zinc			21.8	<u> </u>	18.0	JB	14.6	1B		<u> </u>		<u>. </u>	0,1	Li	10.4	J	233	J J	19.0	1	12.9	لـــــــا

VQ - Validation Qualifier

ATTACHMENT C

Laboratory Reported Results



Page 1 of 1

Client Sample ID: 304-P2

Lab Sample ID: Matrix:

F4951-1

SO - Soil

Date Sampled: 09/23/99

Date Received: 09/25/99

Percent Solids: n/a

Project:

Bainbridge

Metals Analysis

RDL Units DF Result Prep

Analyzed By Method

Lead

Analyte

1.3

0.0050 mg/l

09/29/99 09/29/99 SJL



Page 1 of 1

Client Sample ID: 404-P4

Lab Sample ID: F4951-2

Matrix:

SO - Soil

Date Sampled: 09/23/99

Date Received: 09/25/99

Project:

Bainbridge

Percent Solids: n/a

Metals Analysis

Analyte Result RDL Units DF Analyzed By Method Ргер

09/29/99 09/29/99 SJL Lead 1.0 0.0050 mg/l



Page 1 of I

Client Sample ID: 404-P3

Lab Sample ID: F4951-3 Matrix:

SO - Soil

Date Sampled: 09/23/99

Date Received: 09/25/99

Project:

Bainbridge

Percent Solids: n/a

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

09/29/99 09/29/99 SJL Lead 46.6 0.0050 mg/l SW846 6010A



Page 1 of 1

Client Sample ID: 404-P2

Lab Sample ID: F4951-4
Matrix: SO - Soil

Date Sampled: 09/23/99
Date Received: 09/25/99
Percent Solids: n/a

Project:

Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

Lead 88.8 0.0050 mg/l 1 09/29/99 09/29/99 SJL SW846 6010A



Page 1 of 1

Client Sample ID: 404-P1 Lab Sample ID: F4951-5

Lab Sample ID: Matrix:

SO - Soil

Date Sampled: 09/23/99 **Date Received:** 09/25/99

Percent Solids: n/a

Project:

Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

Lead 200 0.025 mg/l 5 09/29/99 09/29/99 SJL SW846 6010A



Page 1 of 1

Client Sample ID: 404-P6

Lab Sample ID: Matrix:

F4951-6 SO - Soil Date Sampled: 09/24/99

Date Received: 09/25/99

Percent Solids: n/a

Project:

Lead

Bainbridge

Metals Analysis

Analyte Result

54.3

RDL Units DF

0.0050 mg/l

Prep

09/29/99 09/29/99 SJL

Analyzed By

SW846 6010A

Method

RDL = Reported Detection Limit

700010



Page 1 of 1

Client Sample ID: 404-P5

Lab Sample ID: Matrix:

F4951-7 SO - Soil Date Sampled: 09/24/99 Date Received: 09/25/99

Percent Solids: n/a

Project:

Bainbridge

Metals Analysis

Analyte

Result

RDL Units DF

Prep Analyzed By Method

Lead

1.7

0.0050 mg/l

09/29/99 09/29/99 SJL



Page 1 of 1

Client Sample ID: 707-262C Lab Sample ID:

F4951-8

SO - Soil

Date Sampled: 09/23/99

Percent Solids: 90.0

Date Received: 09/25/99

Project:

Matrix:

Bainbridge

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed By	Method

10.7 mg/kg 1 Lead 37.1 09/28/99 09/28/99 EP SW846 6010A



Page 1 of 1

Client Sample ID: 707-276C

Lab Sample ID: F Matrix: S

F4951-9 SO - Soil **Date Sampled:** 09/23/99 **Date Received:** 09/25/99

Percent Solids: 89.3

Project:

Bainbridge

Metals Analysis

Analyte Result

RDL Units DF

DF Prep

Analyzed By

Method

Lead

18.9

12.0 mg/kg 1

09/28/99 09/28/99 EP



Page 1 of 1

Client Sample ID: 707-01C

Lab Sample ID: F4951-10 Matrix: SO - Soil

Date Sampled: 09/23/99 Date Received: 09/25/99 Percent Solids: 86.5

Project:

Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

Lead 65.6 11.9 mg/kg 1 09/28/99 09/28/99 EP SW846 6010A



Page 1 of 1

Client Sample ID: 707-46C

Lab Sample ID: Matrix: F4951-11

SO - Soil

Date Sampled: 09/23/99

Date Received: 09/25/99 Percent Solids: 85.0

Project:

Analyte

Lead

Bainbridge

Metals Analysis

Result

63.1

RDL

11.9

Units DF Prep

mg/kg 1

09/28/99 09/28/99 EP

Analyzed By

SW846 6010A

Method

RDL = Reported Detection Limit



Page 1 of 1

Client Sample ID: 707-98C Lab Sample ID:

F4951-12

Date Sampled: 09/23/99 Date Received: 09/25/99

Matrix:

SO - Soil

Percent Solids: 90.1

Project:

Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep

Analyzed By Method

Lead

41.8

11.4 mg/kg 1 09/28/99 09/28/99 EP



Page 1 of 1

Client Sample ID: 707-155C

Lab Sample ID: F4951-13 Matrix:

SO - Soil

Date Sampled: 09/23/99 Date Received: 09/25/99

Percent Solids: 84.6

Project:

Bainbridge

Metals Analysis

Result Analyte RDL Units DF Ргер Analyzed By Method

Lead 19.1 09/28/99 09/28/99 EP 11.8 mg/kg 1 SW846 6010A



Page 1 of 1

Client Sample ID: 304-37C Lab Sample ID:

F4951-14

Date Sampled: 09/23/99

Matrix:

SO - Soil

Date Received: 09/25/99

Project:

Bainbridge

Percent Solids: 94.8

Metals Analysis

Analyte

Result

KDL Units DF

Analyzed By Prep

Method

Lead

7.8 B

10.5 mg/kg 1 09/28/99 09/28/99 EP



Page 1 of 1

Client Sample ID: 304-34C

Lab Sample ID: F4951-15 SO - Soil Matrix:

Date Sampled: 09/23/99 Date Received: 09/25/99 Percent Solids: 90.8

Project:

Bainbridge

Metals Analysis

RDL Units DF Prep Analyzed By Mcthod Analyte Result

09/28/99 09/28/99 EP SW846 6010A Lead 9.2 B 11.4 mg/kg 1



Page 1 of 1

Client Sample ID: 304-09C

Lab Sample ID: F4951-16 Matrix: SO - Soil

Date Sampled: 09/23/99 Date Received: 09/25/99 Percent Solids: 91.9

Project: Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

Lead 10.3 B 11.3 mg/kg 1 09/28/99 09/28/99 EP SW846 6010A



Page 1 of 1

Client Sample ID: 304-14C

Lab Sample ID: Matrix:

F4951-17

Date Sampled: 09/23/99

SO - Soil

Date Received: 09/25/99 Percent Solids: 90.1

Project:

Analyte

Bainbridge

Metals Analysis

Result

RDL

Units DF Prep

Analyzed By

Mcthod

Lead

8.2 B

11.4 mg/kg 1 09/28/99 09/28/99 EP



Page 1 of 1

Client Sample ID: 304-119C

Lab Sample ID: Matrix:

F4951-18

SO - Soil

Date Sampled: 09/23/99

Date Received: 09/25/99

Percent Solids: 93.6

Project:

Analyte

Lead

Bainbridge

Metals Analysis

Result

4.7 B

RDL Units DF

mg/kg 1

10.9

Prep

09/28/99 09/28/99 EP

Analyzed By

SW846 6010A

Method

RDL = Reported Detection Limit



Page 1 of 1

Client Sample ID: 404-P11

Lab Sample ID: Matrix:

F4951-19 SO - Soil

Date Sampled: 09/24/99 Date Received: 09/25/99

Percent Solids: n/a

Project:

Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep Aualyzed By Method

Lead 33.7 0.0050 mg/l 09/29/99 09/29/99 SJL

SW846 6010A

RDL = Reported Detection Limit



Page 1 of 1

Client Sample ID: 404-P9

Lab Sample ID: Matrix:

F4951-20

SO - Soil

Date Sampled: 09/24/99

Date Received: 09/25/99 Percent Solids: n/a

Project:

Analyte

Bainbridge

Metals Analysis

Kesult

RDL Units DF

Ргер

Analyzed By

Mcthod

Lead

24.2

0.0050 mg/l

09/29/99 09/29/99 SJL



Page 1 of 1

Client Sample ID: 404-P8

Lab Sample ID: F4951-21 Matrix: SO - Soil
 Date Sampled:
 09/24/99

 Date Received:
 09/25/99

Project: Painbridge Percent Solids: n/a

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

Lead 0.38 0.0050 mg/l 1 09/29/99 09/29/99 SJL SW846 6010A



Page 1 of 1

Client Sample ID: 707-276C Lab Sample ID:

F4951-9R

Date Sampled: 09/23/99

Matrix:

SO - Soil

Percent Solids: 89.3

Date Received: 09/30/99

Project:

Bainbridge

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	Ву	Method
Aluminum	19500	21.3	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Antimony	0.68 B	6.4	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Arsenic	3.0	1.1	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Barium	42.1	21.3	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Beryllium	0.79	0.53	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Cadmium	0.04 U	0.43	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Calcium	321 B	533	mg/kg	1	10/05/99	10/07/99	JК	SW846 6010A
Chromium	20.6	1.1	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Cobalt	5.3	5.3	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Copper	6.9	2.7	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Iron	16800	10.7	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Lead	28.1	10.7	mg/kg	1	10/05/99	10/07/99	JК	SW846 6010A
Magnesium	1310	533	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Manganese	64.8	1.6	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Mercury	0.01 B	0.19	mg/kg	1	10/05/99	10/05/99	SJL	SW846 7471A
Nickel	8.5	4.3	mg/kg	1	10/05/99	10/07/99	JK	\$W846 6010A
Potassium	734	533	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Selenium	0.22 U	10.7	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Silver	0.10 U	1.1	mg/kg	1	10/05/99	10/07/99	ЛK	SW846 6010A
Sodium	246 B	533	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Thallium	0.29 U	1.1	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Vanadium	27.9	5.3	mg/kg	1	10/05/99	10/07/99	JK	SW846 6010A
Zinc	21.8	2.1	mg/kg	1	10/05/99	10/07/99	JK	\$W846 6010A



Page 1 of 1

Client Sample ID: 707-01C

Lab Sample ID: Matrix:

F4951-10R

SO - Soil

Date Sampled: 09/23/99 Date Received: 09/30/99

Percent Solids: 86.5

Project:

Bainbridge

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	Ву	Method
Aluminum	15400	21.6	mg/kg	1	10/07/99	10/07/99	JК	SW846 6010A
Antimony	4.1 B	6.5	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Arsenic	3.0	1.1	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Barium	40,2	21.6	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Beryllium	0.77	0.54	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Cadmium	0.04 U	0.43	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Calcium	236 B	540	mg/kg	1	10/07/99	10/07/99	JК	SW846 6010A
Chromium	7.8	1.1	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Cobalt	3.4 B	5.4	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Copper	4.5	2.7	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Iron	13000	10.8	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Lead	67.6	10.8	mg/kg	1	10/07/99	10/07/99	JК	SW846 6010A
Magnesium	1110	540	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Manganese	56.9	1.6	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Mercury	0.01 B	0.16	mg/kg	1	10/05/99	10/05/99	SJL	SW846 7471A
Nickel	4.5	4.3	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Potassium	1070	540	mg/kg	1	10/07/99	10/07/99	JК	SW846 6010A
Selenium	0.22 U	10.8	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Silver	0.10 U	1.1	mg/kg	1	10/07/99	10/07/99	JК	SW846 6010A
Sodium	228 B	540	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Thallium	0.29 U	1.1	mg/kg	1	10/07/99	10/07/99	JК	SW846 6010A
Vanadium	16.1	5.4	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Zinc	18.0	2.2	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A



Page 1 of 1

Client Sample ID: 707-46C

Lab Sample ID: F4951-11R Matrix: SO - Soil **Date Sampled:** 09/23/99 **Date Received:** 09/30/99

Percent Solids: 85.0

Project:

Bainbridge

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed By	Method
Aluminum	13700	22.0	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Antimony	0.36 B	6.6	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Arsenic	2.3	1.1	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Barium	39.8	22.0	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Beryllium	0.83	0.55	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Cadmium	0.04 U	0.44	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Calcium	261 B	550	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Chromium	5.4	1.1	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Cobalt	3.9 B	5.5	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Copper	2.8	2.7	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Iron	10600	11.0	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Lead	68.0	11.0	mg/kg	1	10/07/99	10/07/99 лк	5W846 6010A
Magnesium	820	550	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Manganese	44.1	1.6	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Mercury	0.02 B	0.20	mg/kg	1	10/05/99	10/05/99 SII	SW846 7471A
Nickel	4.1 B	4.4	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Potassium	633	550	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Selenium	0.22 U	11.0	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Silver	0.11 U	1.1	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Sodium	210 B	550	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Thallium	0.30 U	1.1	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Vanadium	11.5	5.5	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Zinc	14.6	2.2	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A



Page 1 of 1

Client Sample ID: 304-37C Lab Sample ID:

F4951-14R

Matrix:

SO - Soil

Date Sampled: 09/23/99

Date Received: 09/30/99 Percent Solids: 94.8

Project:

Bainbridge

Analyte	Result	RDL	Units	DF	Prep	Analyzed 1	Ву	Method
Aluminum	14100	19.9	ma/ka	1	10/07/99	10/07/99 J	T7/	EN1044 4010 A
			mg/kg	1			JK 	SW846 6010A
Antimony	1.3 B	6.0	mg/kg	1	10/07/99		JK	SW846 6010A
Arsenic	3.9	1.0	mg/kg	1	10/07/99		JK	SW846 6010A
Barium	30.9	19.9	mg/kg	1	10/07/99	10/07/99 J	JK	SW846 6010A
Beryllium	0.55	0.50	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Cadmium	0.03 U	0.40	mg/kg	1	10/07/99	10/07/99 л	JK	SW846 6010A
Calcium	870	498	mg/kg	1	10/07/99	10/07/99 л	JK	SW846 6010A
Chromium	24.1	1.0	mg/kg	1	10/07/99	10/07/99 J	JK	SW846 6010A
Cobalt	3.7 B	5.0	mg/kg	1	10/07/99	10/07/99	ΙK	SW846 6010A
Copper	5.3	2.5	mg/kg	1	10/07/99	10/07/99 J	JΚ	SW846 6010A
Iron	22400	10	mg/kg	1	10/07/99	10/07/99 л	JK	SW846 6010A
Lead	10.8	10	mg/kg	1	10/07/99	10/0 <mark>7/99</mark> J	JK	SW846 6010A
Magnesium	783	498	mg/kg	1	10/07/99	10/07/99 1	ſΚ	SW846 6010A
Manganese	70.2	1.5	mg/kg	1	10/07/99	10/07/99 J	JK	SW846 6010A
Mercury	0.05 B	0.17	mg/kg	1	10/05/99	10/05/99 \$	SJL	SW846 7471A
Nickel	7.1	4.0	mg/kg	1	10/07/99	10/07/99 л	JK	SW846 6010A
Potassium	449 B	498	mg/kg	1	10/07/99	10/07/99 л	JΚ	SW846 6010A
Selenium	0.20 U	10	mg/kg	1	10/07/99	10/07/99 л	JΚ	SW846 6010A
Silver	0.1 U	1.0	mg/kg	1	10/07/99	10/07/99 J	JΚ	SW846 6010A
Sodium	236 B	498	mg/kg	1	10/07/99	10/07/99 J	JK	SW846 6010A
Thallium	0.27 U	1.0	mg/kg	1	10/07/99	10/07/99 л	JΚ	SW846 6010A
Vanadium	38.3	5.0	mg/kg	1	10/07/99	10/07/99 л	JK	SW846 6010A
Zinc	8.1	2.0	mg/kg	1	10/07/99	10/07/99 л	JΚ	SW846 6010A



Page 1 of 1

Client Sample ID: 304-34C

Lab Sample ID:

F4951-15R

Date Sampled: 09/23/99

Matrix: SO - Soil Date Received: 09/30/99 Percent Solids: 90.8

Project:

Bainbridge

Analyte	Result	RDL	Units	DF	Ргер	Analyzed By	Method
Aluminum	13400	21.8	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Antimony	0.78 B	6.5	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Arsenic	2.3	1.1	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Barium	44.6	21.8	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Beryllium	0.74	0.55	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Cadmium	0.04 U	0.44	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Calcium	1410	545	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Chromium	15.0	1.1	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Cobalt	6.7	5.5	mg/kg	1	10/07/99	10/07/99 ЈК	SW846 6010A
Copper	6.3	2.7	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Iron	15400	10.9	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Lead	10.2 B	10. 9	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Magnesium	1510	545	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Manganese	115	1.6	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Mercury	0.01 B	0.19	mg/kg	1	10/05/99	10/05/99 ѕи.	SW846 7471A
Nickel	7.8	4.4	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Potassium	668	545	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Selenium	0.22 U	10.9	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Silver	0.11 U	1.1	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Sodium	216 B	545	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Thallium	0.29 U	1.1	mg/kg	1	10/07/99	10/07/99 JK	SW846 6010A
Vanadium	24.0	5.5	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Zinc	18.4	2.2	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A



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Client Sample ID: 304-09C

Lab Sample ID: F4951-16R **Matrix:** SO - Soil

Date Sampled: 09/23/99 Date Received: 09/30/99 Percent Solids: 91.9

Project:

Bainbridge

Analyte	Result	RDL	Units	DF	Prep	Analyzed	Ву	Method
Aluminum	18500	20.0	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Antimony	0.86 B	6.0	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Arsenic	4.5	1.0	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Barium	38.0	20.0	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Beryllium	0.81	0.50	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Cadmium	0.03 U	0.40	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Calcium	387 B	499	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Chromium	20.0	1.0	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Cobalt	6.5	5.0	mg/kg	1	10/07/99	10/07/99	JК	SW846 6010A
Соррег	11.2	2.5	mg/kg	1	10/07/99	10/07/99	JК	SW846 6010A
Iron	22800	10	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Lead	12.2	10	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Magnesium	2140	499	mg/kg	1	10/07/99	10/07/99	JK	\$W846 6010A
Manganese	140	1.5	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Mercury	0.01 B	0.16	mg/kg	1	10/05/99	10/05/99	SII.	SW846 7471A
Nickel	10.2	4.0	mg/kg	1	10/07/99	10/07/99	JК	SW846 6010A
Potassium	973	499	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Selenium	0.20 U	10	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Silver	0.1 U	1.0	mg/kg	1	10/07/99	10/07/99	JК	SW846 6010A
Sodium	105 B	499	mg/kg	1	10/07/99	10/07/99	JК	SW846 6010A
Thallium	0.27 U	1.0	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Vanadium	39.8	5.0	mg/kg	l	10/07/99	10/07/99	JK	SW846 6010A
Zinc	23.5	2.0	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A



Page 1 of 1

Client Sample ID: 304-14C

Lab Sample ID: Matrix:

F4951-17R SO - Soil

Date Sampled: 09/23/99

Percent Solids: 90.1

Date Received: 09/30/99

Project:

Bainbridge

Analyte	Result	RDL	Units	DF	Ргер	Analyzed B	y Method
Aluminum	15600	19.1	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Antimony	0.85 B	5.7	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Arsenic	4.1	0.96	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Barium	35.3	19.1	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Beryllium	0.88	0.48	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Cadmium	0.03 U	0.38	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Calcium	448 B	478	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Chromium	16.6	0.96	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Cobalt	9.5	4.8	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Copper	10.1	2.4	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Iron	21000	9.6	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Lead	8.9 B	9.6	mg/kg	1	10/07/99	10/07/99 лк	5W846 6010A
Magnesium	1750	478	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Manganese	261	1.4	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Mercury	0.02 B	0.19	mg/kg	1	10/05/99	10/05/99 sm	L SW846 7471A
Nickel	8.7	3.8	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Potassium	988	478	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Selenium	0.20 U	9.6	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Silver	0.09 U	0.96	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Sodium	104 B	478	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Thallium	0.26 U	0.96	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Vanadium	34.3	4.8	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Zinc	19.8	1.9	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A



Page 1 of 1

Client Sample ID: 304-119C

Lab Sample ID: F4951-18R Matrix:

SO - Soil

Date Sampled: 09/23/99

Date Received: 09/30/99 Percent Solids: 93.6

Project:

Bainbridge

Analyte	Kesult	RDL	Units	DF	Ргер	Analyzed By	Method
Aluminum	18200	22.3	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Antimony	0.48 B	6.7	mg/kg	ì	10/07/99	10/07/99 јк	SW846 6010A
Arsenic	0.52 B	1.1	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Barium	33.1	22.3	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Beryllium	0.75	0.56	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Cadmium	0.04 U	0.45	mg/kg	I	10/07/99	10/07/99 лк	SW846 6010A
Calcium	575	5 56	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Chromium	3.8	1.1	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Cobalt	1.7 B	5.6	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Copper	5.8	2.8	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Iron	9000	11.1	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Lead	5.5 B	11.1	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Magnesium	1210	556	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Manganese	29.3	1.7	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Mercury	0.01 U	0.18	mg/kg	1	10/05/99	10/05/99 SJL	SW846 7471A
Nickel	2.2 B	4.5	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Potassium	1420	556	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Selenium	0.23 U	11.1	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Silver	0.11 U	1.1	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Sodium	270 B	556	mg/kg	1	10/07/99	10/07/99 лк	SW846 6010A
Thallium	0.30 U	1.1	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A
Vanadium	7.2	5.6	mg/kg	1	10/07/99	10/07/99 JK	SW846 6010A
Zinc	12.3	2.2	mg/kg	1	10/07/99	10/07/99 јк	SW846 6010A

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation



ANALYSIS REQ. 3T AND CHAIN OF CUSTODY RECORD*

Reference Document No. Page 1 of <u>2</u>

•	No. 1 Bainbailte 7 ers 2 Treater/K No. 3		·		0 1		2790 Musside Mouroeville,	BIVR DA 15196
Purchase Order	nger ⁴ L. Stearn No. ⁶ 798939-00 Nate ¹¹ 3 days	Proj.	Carrier/W	aybill No.	. 13 Feder	79/195 29/850 PER LINE	17 top 2740 Mass	ide Bluk
Sample ¹⁴ Number	Sample ¹⁵ Description/Typa	Date/Time 16 Collected	Container ¹ Type	Sample ¹⁸ Volume	p _{re-} 19 servative	Requested Testing ²⁰ Program	Condition on ²¹ Receipt	Disposal ²² Record No.
304-P2	Comp Spt Suil Bldg 304 Pele 2	9/23/99 1500	1-303	803	4°C	TCLP Lead 1311/6010		
404-P4	Comp Spt Sord Bldg 404 Pile 9	9/23/99 						MS/MSD
404-P3	Comp 5pt Suil Bldg 404 Pile 3	9/23/99						
404 - P2	Comp Spt Seil Bidg 404 Pile 2	1700						
404 - PI	Comp Spt Soil Bldo 404 Pile 1	1/23/99						
404 = P2	Comp Spt Soil Blagged Praz	9/23/99	 			DT 9	24/49	
404-P6	Comp 5 pt Soil Bldg 404 Pll 6	4/24/49 1030	. (
404-P5	Comp 5 pt Svil Bldg 404 P.65	1/24/49						
Special Instruction	ns: 23 & - mail	results	to Dor	-othy	Small			
Possible Hazard In Non-hazard J Fla	dentification: 24 ammable 1 Skin Irrit	Lead ant 1 Pois	son B 📋	Unknown	. Y J F	Sample Disposal: ²⁵ Return to Client: 1 Dispo	osal by Lab 🔀 🛚 Archive	(mos.)
Turnaround Time Normal 그 Rush 첫	Hequired: 26 3 d	n y 5	QC	Level: ²⁷ I II. _I	7 H , 20	Project Specific (specify):	lun NFES (e.	-10
1. Relinquished by (Signature/Affiliation)	28 Dick Treater Dick Treater	Date	e: 9/24.	199	1. Receiv (Signature/Aff	ed by 28 Radion	Date:	
2. Relinquished by Signature/AlMation)		Date Time			2. Receiv (Signature/Affi	ed by ((Q)/C/4	Date: Time:	
3. Relinquished by (Signature/Affiliation)		'Date Time			3. Receiv		Date: Time:	
Comments: 29 Fax	~ / / / / ·	DICK Tr 410-37		32	71.5			

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.30 559860 Page 2 of 2

Project Name Bumbridge

Project No. <u>797939</u>

Samples Shipment Date 9/24/99

			ONE	CONTA	MINER	PER LINE		
Sample 14 Number	Sample 15 Description/Type	Date/Time 16 Collected	Gontainer ¹⁷ Typo	Sample 18 Volume	Pre-19 servativo	Requested Testing 20 Program	Cendition on 21 Receipt	Disposal 22 Record No.
707-262	C Gidy 107 Grd P5	9/23/49	1-8-3	N 203	4°C	Total lead 6010		
707-276	Comp 3 st Surk	9/23/99						LAB
0 707-010		9/23/99 1445					USE	DIVILY
707-460		9/23/99					Hart Carl Hard	MS/MSD
2 707-980)		
707-155		9/23/49						
1 304-370		4/23/49 1645						LAB
304-340		9/23/99					LEL	DWTA
304-09	7.23	9/23/99						
1 304-14		9/23/99						
304-119	C Bldg304 Gnd P5	1705		I	,	,		
***/	told all of the abo	ve sampl	eslextr	acts (Sample	s 707-262C	FOR	
4	hrough 304-11		r furt	nev a	naly si			
4 404-P		9/14/99	1-803	803	4°C	1311/6010		1 80 E3
104 - F	9 Comp 5 pt soil	9/24/99						
404-8	8 Comp 5 pt Soil Bldg 404 P. 68	9/24/99	 	}	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			M GG EZGO
'						<u></u>		
		ļ						CIMLY
						(Daclar)	2549/16	5)

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.30 559860 Page 2 of 2

. Project Name Bainbridge

Project No. 797939

Samples Shipment Date 9/24/99

			ONE	CONT	MINER	PER LINE		
Sample 14 Number	Sample 15 Description/Type	Date/Time ¹⁶ Collected	Container ¹⁷ Type	Sample 18 Volunte	Pre-19 servative	Requested Testing 20 Program	Condition on 21 Receipt	Disposal ² Record No.
707-262C	Compart So.1 Bidg 707 Grid PS	9/23/99	1-803	N 203	4°C	Total lead 6010		MS/MSD
707-276C	Composit Soil Bilg 707 Grid P7	9/23/99				Ì	FOR	LAB
707-010	Comp 3pt Svil Bldg 707 Grid P2						USE	DMLY
707-46C	Compart Soil Bide 707 Gred P3	9/23/99					Host Vend Head	LAB
707-98C	Composet Soul Bldg 707 Grid P4	9/23/49 1451						
707-155C	Comp 3pt Soil Bldg 707 Grid PB	9/23/49						
304-37C	Comp3pt Soil Bldg 304 Grid P1							
304-34C	Comp 3 pt Suil Bidg 304 Grid P2							DMLY
304-09C	Compapt Soil Bldg304 GridP3	9/23/99 1655						
304-14C	Comp 3pt Soil Bidg304 Grid P4	9/23/99 1700						
304-119C	Georp 3pt Suit BIdg 304 Gnd P5	9/23/99	1	ł	}		See See See	
*** Hol	i •	ve sampl	eslextr	acts (Sample	s 707-262C		LAB
thr	ough 304-11		- furt	ier a	alysi:	l		DMLY
404-P11	Comp 5pt Soil Bldg 404 Pile 11	9/24/99	1-803	803	4°C	1311/6010	-FOR	
1404 - P9	Comp 5 pt soil Bld9484 P.69	9/24/99						
404-P8	Comp 5 pt Soil Bldg 404 P, Le &	9/24/99					del tel la	HOLE OF THE PARTY
							FOR	LAB
							USE	OMLY
						Dacley o	7549/16	5
							.,	

Accutest Laboratories Southeast <u>Case Narrative</u>

Job (SDG) No.: +4951		
Samples: ! Al		
Analysis Pertormed: 17015		
1) Sample Receipt Conformance / Non-Confor	mance Summary	
Custody Seals on Coolers?	Yes (i)	No ()
Custody Seals in Tact?	Yes (1)	No () .
Chain of Custody Sealed in Plastic?	YOU	No ()
Chain of Custody Filled out Property?	Yes (;)	No ()
Enough ice and Packing material?	Yes	No ()
All Bottles Sealed?	Yes (1)	No ()
Any Bottles Broken?	Yes ()	1001
Labels in good condition?	Yes (1)	No ()
Labels agree with chain of custody?	You	No ()
Correct Containers Used?	You'ld)	No ()
Preserved Properly?	Yes (1)	No ()
Sufficient Sample?	1004)	No ()
Comments:		<u></u>

JOD# F4951

Accutest Laboratories Southeast Case Narrative

3) Metals Conformance / Non-conformance Summary	,	
Blank level below reporting limits? MP215B	Yes (V)	No ()
lf no, list analytes above reporting limits:		
Spike blank (LCS) data within acceptable Limits? MPZ158	Yes (V)	No ()
If no, list analytes outside of acceptable limits. Refer to QC summary for additional and the control of the co	itional Comments: _	
Matrix spike data within acceptable limits? MP 2158	Yes (V)	No ()
If no, list analytes outside of acceptable limits. Refer to QC summary for additional and the company of the co	itional Comments: _	
Matrix duplicate data within acceptable limits? MP2158	Yes (V)	No ()
If no, list analytes outside of acceptable limits. Refer to QC summary for add	itional Comments:	
Samples prepared and analyzed within holding time?	Yes (V)	No ()
If holding times were not met, list analytes where holding times were exceede	ed and explain;	
All modernial arrivate may (calibration, CCV, ICV, CCR, etc.)?	Yes (V	No ()
All analytical criteria met (calibration, CCV, ICV, CCB, etc.)?	,	•
If not met, list effected samples and analytes:		
Comments:	<u> </u>	

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F4951 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1007M1.ASC

QC Limits: 70 to 130 % Recovery

Date Analyzed: 10/07/99 Methods: SW846 6010A Run ID: MA1578 Units: ug/l

Aluminum 200 Antimony 10 7.4B 74.0 Arsenic 10 10.0 100.0 Barium 200 206 103.1 Beryllium 5.0 5.7 114.8 Cadmium 5.0 5.3 106.8 Calcium 1000 Chromium 10 10.6 106.2 Cobalt 50 50.7 101.4 Copper 25 24.2B 97.0 Iron 300 Lead 10 7.6B 76.0 Magnesium 5000 Manganese 15 15.4 102.3 Molybdenum 50 Nickel 40 42.6 106.6 Potassium 5000 Selenium 10 10.9B 109.3 Silver 10 5000 Thallium 10 12.0 119.9 Tin 50 Vanadium 50 49.9B 99.8	Metal	CRI True	CRIA True	CRIA Results	% Rec	CRI Results	% Rec
Arsenic 10 10.0 100.0 Barium 200 206 103.1 Beryllium 5.0 5.7 114.8 Cadmium 5.0 5.3 106.8 Calcium 1000 Chromium 10 10.6 106.2 Cobalt 50 50.7 101.4 Copper 25 24.2B 97.0 Iron 300 Lead 10 7.6B 76.0 Manganese 15 15.4 102.3 Molybdenum 50 Nickel 40 42.6 106.6 Potassium 5000 Selenium 10 10.9B 109.3 Silver 10 10.9B 109.3 Silver 10 5000 Thallium 10 12.0 119.9 Tin 50 Vanadium 500 Vanadium 50 Vanadium 500 Vanadium 700 Van	Aluminum	200					
Barium 200 206 103.1 Beryllium 5.0 5.7 114.8 Cadmium 5.0 5.3 106.8 Calcium 1000 10.6 106.2 Chromium 10 10.6 106.2 Cobalt 50 50.7 101.4 Copper 25 24.2B 97.0 Iron 300 300 300 300 300 Lead 10 7.6B 76.0	Antimony		10	7.4B	74.0		
Beryllium 5.0 5.7 114.8 Cadmium 5.0 5.3 106.8 Calcium 1000 10.6 106.2 Chromium 10 10.6 106.2 Cobalt 50 50.7 101.4 Copper 25 24.2B 97.0 Iron 300 300 300 300 Lead 10 7.6B 76.0 76.0 76.0 Manganese 15 15.4 102.3 102.3 Molybdenum 50 42.6 106.6 106.6 Potassium 5000 42.6 106.6 106.6 Sodium 5000 10.9B 109.3 10.3 103.2 Sodium 5000 12.0 119.9 10.3 103.2 Tin 50 49.9B 99.8	Arsenic		10	10.0	100.0		
Cadmium 5.0 5.0 5.3 106.8 Calcium 1000 Chromium 10 10.6 106.2 Cobalt 50 50.7 101.4 Copper 25 24.2B 97.0 Iron 300 Lead 10 7.6B 76.0 50.0 Manganese 15 15.4 102.3 Molybdenum 50 Nickel 40 42.6 106.6 Potassium 5000 Selenium 10 10.9B 109.3 Silver 10 10.9B 109.3 Silver 10 12.0 119.9 Tin 50 Vanadium 50 49.9B 99.8	Barium	200				206	103.1
Calcium 1000 Chromium 10 10.6 106.2 Cobalt 50 50.7 101.4 Copper 25 24.2B 97.0 Iron 300 Lead 10 7.6B 76.0 Manganese 15 15.4 102.3 Molybdenum 50 Nickel 40 42.6 106.6 Potassium 5000 Selenium 10 10.9B 109.3 Silver 10 10.9B 109.3 Silver 10 12.0 119.9 Tin 50 Vanadium 50 49.9B 99.8	Beryllium	5.0				5.7	114.8
Chromium 10 10.6 106.2 Cobalt 50 50.7 101.4 Copper 25 24.2B 97.0 Iron 300 Lead 10 7.6B 76.0 Magnesium 5000 Manganese 15 15.4 102.3 Molybdenum 50 Nickel 40 42.6 106.6 Potassium 5000 Selenium 10 10.9B 109.3 Silver 10 10.9B 109.3 Sodium 5000 Thallium 10 12.0 119.9 Tin 50 Vanadium 50 49.9B 99.8	Cadmium	5.0				5.3	106.8
Cobalt 50 50.7 101.4 Copper 25 24.2B 97.0 Iron 300 Lead 10 7.6B 76.0 Manganese 15 15.4 102.3 Molybdenum 50 Nickel 40 42.6 106.6 Potassium 5000 Selenium 10 10.9B 109.3 Silver 10 10.9B 109.3 Sodium 5000 Thallium 10 12.0 119.9 Tin 50 Vanadium 50 49.9B 99.8	Calcium	1000					
Copper 25	Chromium	10				10.6	106.2
Iron 300 Lead 10 7.6B 76.0 magnesium 5000 Molybdenum 50 Nickel 40 42.6 106.6 Potassium 5000 Selenium 10 10.9B 109.3 Silver 10 10.3 103.2 Sodium 5000 Thallium 10 12.0 119.9 Tin 50 Vanadium 50 49.9B 99.8	Cobalt	50				50.7	101.4
Lead 10 7.6B 76.0 Magnesium 5000 15.4 102.3 Molybdenum 50 42.6 106.6 Nickel 40 42.6 106.6 Potassium 5000 5000 Selenium 10 10.9B 109.3 Silver 10 10.3 103.2 Sodium 5000 119.9 Tin 50 49.9B 99.8	Copper	25				24.2B	97.0
Manganese 15 15.4 102.3 Molybdenum 50 42.6 106.6 Nickel 40 42.6 106.6 Potassium 5000 5000 5000 Selenium 10 10.9B 109.3 Silver 10 10.3 103.2 Sodium 5000 5000 119.9 Tin 50 49.9B 99.8	Iron	300					
Manganese 15 15.4 102.3 Molybdenum 50 Nickel 40 42.6 106.6 Potassium 5000 Selenium 10 10.9B 109.3 Silver 10 10.3 103.2 Sodium 5000 Thallium 10 12.0 119.9 Tin 50 Vanadium 50 49.9B 99.8	Lead		10	7.6B	76.0		
Molybdenum 50 Nickel 40 42.6 106.6 Potassium 5000 Selenium 10 10.9B 109.3 Silver 10 10.3 103.2 Sodium 5000 Thallium 10 12.0 119.9 Tin 50 Vanadium 50 49.9B 99.8	magnes1um	5000					
Nickel 40 42.6 106.6 Potassium 5000 Selenium 10 10.9B 109.3 Silver 10 10.3 103.2 Sodium 5000 Thallium 10 12.0 119.9 Tin 50 Vanadium 50 49.9B 99.8	Manganese	IS				15.4	102.3
Potassium 5000 selenium 10 10.9B 109.3 Silver 10 10.3 103.2 Sodium 5000 12.0 119.9 Tin 50 49.9B 99.8	Molybdenum	50					
Selenium 10 10.9B 109.3 Silver 10 10.3 103.2 Sodium 5000 12.0 119.9 Tin 50 49.9B 99.8	Nickel	40				42.6	106.6
Silver 10 10.3 103.2 Sodium 5000 Thallium 10 12.0 119.9 Tin 50 Vanadium 50 49.9B 99.8	Potassium	5000					
Sodium 5000 Thallium 10 12.0 119.9 Tin 50 Vanadium 50 49.98 99.8	Selenium		10	10.9B	109.3		
Thallium 10 12.0 119.9 Tin 50 Vanadium 50 49.9B 99.8	Silver	10				10.3	103.2
Thallium 10 12.0 119.9 Tin 50 Vanadium 50 49.9B 99.8	Sodium	5000			- 11 - 12		
Tin 50 Vanadium 50 49.9B 99.8	Thallium		10	12.0	119.9		
Vanadium 50 49.9B 99.8	Tin	50					
						49.9B	99.8
	Zinc	20				23.5	117.4

(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4951 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR0929M1.ASC QC Limits: result < RDL

Date Analyzed: 09/29/99 Methods: EPA 200.7, SW846 6010A Units: ug/l

Metal	RDL	IDL	CCB raw	final	CCB raw	final	CCB raw	final			
Aluminum	200	30	anr								
Antimony	5.0	2.39	anr								
Arsenic	10	3.4	anr								
Barium	200	.39	anr								
Beryllium	5.0	. 36	anr								
Cadmium	5.0	. 33	anr								
Calcium	1000	19.5	anr			:					
Chromium	10	.637	anr								
Cobalt	50	. 797	anr			·.					
Copper	25	.747	anr								
Iron	300	32	anr					·			
Lead	5.0	1.59	0.80	<5.0	7.1	* (a)	2.8	<5.0B			
magnesium	5000	17.6	anr	• •							
Manganese	15	.16	anr	la e e							
Molybdenum	50	.68	anr								
Nickel	40	1	anr								
Potassium	5000	28.2	anr								
Selenium	10	2	anr								
Silver	10	.96	anr	Filter State							
Sodium	5000	153	anr								
Thallium	10	2.69	anr								
Tin	50	2,2	anr								
Vanadium	50	.717	anr								
Zinc	20	. 83	anr						•		

^(*) Outside of QC limits (anr) Analyte not requested
(a) Soil RDL for Pb at .10 ppm.

Login Number: F4951 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR0928M1.ASC QC Limits: result < RDL Date Analyzed: 09/28/99 Methods: SW846 6010A Run ID: MA1566 Units: ug/l

Units: ug/l

QC DIMICS: I	esurc < K	DL		Kui ID.	MAT 300	Unites.	49/1			
Metal	RDL	IDL	ICB raw	CC final ra	CB aw final	CCB raw	final	CCB raw	final	
Aluminum	200	30	anr							
Antimony	60	2.39	anr							
Arsenic	10	3.4	anr							
Barium	200	.39	anr							
Beryllium	5.0	.36	anr							
Cadmium	4.0	. 33	anr							
Calcium	5000	19.5	anr							
Chromium	10	.637	anr							
Cobalt	50	.797	anr		:					
Copper	25	.747	anr							
Iron	100	32	anr	: .						
Lead	100	1.59	0.60	<100 2.	2 <100B	1.2	<100	1.5	<100	
Magnesium	2000	17.6	anı							
Manganese	15	.16	anr							
Molybdenum	50	.68	anr			: * : - :				
Nickel	40	1	anr			:			•	
Potassium	5000	28.2	anr							
Selenium	100	2	anr	1		ty Programme				
Silver	10	. 96	anr							
Sodium	5000	153	anr			• ,				
Thallium	10	2.69	anr			•				
Tin	50	2.2	anr							
Vanadium	50	.717	anr						.	
Zinc	20	.83	anr							

(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4951

Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR0928M1.ASC QC Limits: result < RDL Date Analyzed: 09/28/99 Methods: SW846 6010A Run ID: MA1566 Units: ug/l

RDL	IDT	CCB raw	CCB final raw	ÇCB final raw	CCB final raw	final					
200	30	anr									
60	2.39	anr		. :							
10	3.4	anr									
200	. 39	anr									
5.0	.36	anr		100							
4.0	. 33	anr									
5000	19.5	anr									
10	.637	anr		÷							
50	.797	anr	:	ŧ.							
25	.747	anr									
100	32	anr	1								
100	1.59	1.2	<100 0.73	<100 1.7	<100 1.7	<100B					
5000	17.6	anr	- P	•							
15	.16	anr									
50	. 68	anr									
40	1	anr									
5000	28.2	anr									
100	2	anr									
10	. 96	anr									
5000	153	anr									
10	2.69	anr		44 - 455 1000 ani							
50	2.2	anr			144						
50	.717	anr									
20	.83	anr				-					
	200 60 10 200 5.0 4.0 5000 10 50 25 100 5000 15 50 40 5000 10 5000 10 5000 10 5000 10 5000	200 30 60 2.39 10 3.4 200 .39 5.0 .36 4.0 .33 5000 19.5 10 .637 50 .797 25 .747 100 32 100 1.59 5000 17.6 15 .16 50 .68 40 1 5000 28.2 100 2 5000 153 10 2.69 50 .717	RDL IDL raw 200 30 anr 60 2.39 anr 10 3.4 anr 200 .39 anr 5.0 .36 anr 4.0 .33 anr 5000 19.5 anr 10 .637 anr 50 .797 anr 100 32 anr 100 32 anr 100 1.59 1.2 5000 17.6 anr 50 .68 anr 40 1 anr 5000 28.2 anr 100 2 anr 5000 153 anr 5000 153 anr 50 .269 anr 50 .717 anr 50 .717 anr	RDL IDL raw final raw 200 30 anr 60 2.39 anr 10 3.4 anr 200 .39 anr 5.0 .36 anr 4.0 .33 anr 5000 19.5 anr 10 .637 anr 50 .797 anr 100 32 anr 100 32 anr 100 1.59 1.2 <100	RDL IDL raw final raw final raw 200 30 anr 30 anr	RDL IDL raw final r					

^(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4951 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR0928M1.ASC

Date Analyzed: 09/28/99 Methods: SW846 6010A Run ID: MA1566 Units: ug/1

QC Limits: result < RDL

•-								J
etal	RDL	IDL	CCB raw	final	CCB raw	final	CCB raw	final
ıminum	200	30	anr	- :.				
imony	60	2.39	anr					
enic	10	3.4	anr					
ium	200	.39	anr					
yllium	5.0	. 36	anr			l.		
mium	4.0	. 33	anr					
ium	5000	19.5	anr		• •			
mium	10	. 637	anr					•
lt	50	. 797	anr					
per	25	.747	anr					
n	100	32	anr					
	100	1.59	1.3	<100	2.2	<100B	2.3	<100
sium	5000	17.6	anr					
nese	15	.16	anr					
bdenum	50	. 68	anr	Pilotavan Täho				1.35
e 1	40	1	anr		I			
sium	5000	28.2	anr		ė			
nium	100	2	anr	. 1 1449 1915. 1944.	A A			
r	10	. 96	anr		i.		·	
ım	5000	153	anr		Ų.			
lium	10	2.69	anr		4.) H			
	50	2.2	ONE		<u></u>			
nadium	50	.717	anr					17.
	20	.83	anr				į.	

(*) Outside of QC limits (anr) Analyte not requested

BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: F4951 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2101 Matrix Type: SOLID Methods: SW846 6010A Units: mg/kg

Prep Date:

09/28/99

Prep Date:				09/28/99
			МВ	# / T
Metal	RDL	IDL	raw	final
Aluminum	20	3	anr	
Antimony	6.0	. 239	anr	
Arsenic	1.0	.345	anr	
Barium	20	.039	anr	
Beryllium	0.50	.0363	anr	
Cadmium	0.40	.033	anr	47 4.11
Calcium	500	1.95	anr	
Chromium	1.0	.0637	anr	
Cobalt	5.0	.0797	anr	
Copper	2.5	.0747	anr	
Iron	10	3.2	anr	
Lead	10	.159	0.96	<10
Magnesium	500	1.76	anr	
Manganese	1.5	.016	anr	
Molybdenum	5.0	.068	anr	
Nickel	4.0	.1	anr	
Potassium	500	2.82	anr	
Selenium	10	.204	anr	
Silver	1.0	.0963	anr	
Sodium	500	15.3	anr	
Thallium	1.0	.269	anr	
Tin	5.0	.223	anr	
Vanadium	5.0	.0717	anr	
Zinc	2.0	.083	anr	

Associated samples MP2101: F4951-8, F4951-9, F4951-10, F4951-11, F4951-12, F4951-13, F4951-14

Results < IDL are shown as zero for calculation purposes (*) Outside of OC limits

(*) Outside of QC limits (anr) Analyte not requested

000099

BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: F4951 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2100 Matrix Type: SOLID Methods: SW846 6010A

Units: mg/kg

Prep Date:

09/28/99

Prep Date:				09/28/99
Metal	RDL	IDL	MB raw	final
Aluminum	20.0	3	anr	
Antimony	6.0	.24	anr	
Arsenic	1.0	.34	anr	
Barium	20.0	.04	anr	
Beryllium	0.50	. 04	anr	
Cadmium	0.40	.03	anr	
Calcium	500	2	anr	
Chromium	1.0	.06	anr	54.4
Cobalt	5.0	.08	anr	
Copper	2.5	. 07	anr	
Iron	10.0	3.2	anr	
Lead	10.0	.16	0.34	<10.0
Magnesium	500	1.8	anr	
Manganese	1.5	. 02	anr	
Molybdenum	5.0	- 07	anr	
Nickel Potassium	4.0 500	-1 2.8	anr	
Selenium	10.0	.2	anr	
Silver	1.0	.1	anr	
Sodium	500	15.3	anr	
Thallium	1.0	.27	anr	
Tin	5.0	.22	anr	
Vanadium	5.0	. 07	anr	
Zinc	2.0	.08	anr	

Associated samples MP2100: F4951-15, F4951-16, F4951-17, F4951-18

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits $% \left\{ \frac{1}{2}\right\} =2$

(anr) Analyte not requested

000100

Login Number: F4951
Account: ITPAMONR - IT Corporation
Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2100 Matrix Type: SOLID Methods: SW846 6010A Units: mg/kg

Prep Date:

09/28/99

09/28/99

racp bacc.		55,26,55						
Metal	F4938-1 Original DUP	Q RPD L	C imits	F4938-1 Original	MS	Spikelot MPFLICP	% Rec	QC Limits
luminum	anr							
ntimony	anr							
rsenic	anr							•
arium	anr							
Beryllium	anr							
Cadmium	anr						:	Ç S
Jaluiga	anr						1	
Chromium	anr							
Cobalt	anr						3 141	\$ \$ \$
Copper	anr						1) IR 14.1	
ron	anr							•
Lead	527 672	23.4 0	-44	527	581	111.16	48.8 (a	60-127
agnesium	anr ,						 	5 5
anganese	anr						131	
olybdenum	anr							
lickel	anr							
Potassium	anr							15 6. 9.
Selenium	anr							
Silver	anr							£
Sodium	anr							e E
Challium	anr							E.
Γin	anr							
Vanadium	anr							
Zinc	anr							

Associated samples MP2100: F4951-15, F4951-16, F4951-17, F4951-18

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

⁽N) Matrix Spike Rec. outside of QC limits

⁽a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Login Number: F4951 Project: ITPAMONR1597 - Bainbridge

OC Batch ID: MP2100 Matrix Type: SOLID

Methods: SW846 6010A

Units: mg/kg

Prep Date:

09/28/99

Metal	F4938-1 Original MSD	Spikelot MPFLICP % Rec	QC Limits
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Cadmium	anr		
Calcium	e in		
Chromium	anr		
Cobalt	anr		;
Copper	anr	. 경기 (1811년) 1814년 - 1817년 - 1818년 - 1 1818년 - 1818년	:
Iron	anr	नेत्र संस्कृतिक है। संस्कृतिक स	
Lead	527 560	112.3 25.7 (a)	60-127
Magnesium	anr ,		
Manganese	anr		
Molybdenum			
Nickel	anr		
Potassium	anr		
Selenium	anr		
Silver	anr		
Sodium	anr		
Thallium	anr	10 - 11 William 1935 - 20 - 11 - 11 11 - 12 - 12 - 12 - 13 - 13 - 13 - 13 -	
Tin	-		
Vanadium	anr		:
Zinc	anr		
anic	CATTA-	** *** .	

Associated samples MP2100: F4951-15, F4951-16, F4951-17, F4951-18

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Login Number: F4951 Account. ITFAMONR : IT Corporation Project: ITFAMONR1597 - Bainbridge

QC Batch ID: MP2101 Matrix Type: SOLID

Methods: SW846 6010A

Units: mg/kg

Prep Date:

09/28/99

09/28/99

Prep Date:		09/28/99	•		03/28/99					
Metal	F4952-1A Original DUP	RPD	QC Limits	F4952-1A Original	MS	Spikelot MPFLICP		QC Limits		
Aluminum	anr							:		
Antimony	anr						:			
Arsenic	anr									
Barium	anr							2		
Beryllium	anr						d			
Cadmium	anr							:		
Çalçium	d itt							-		
Chromium	anr									
Cobalt	anr									
Copper	anr						2 90 P 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	\$		
Iron	anr									
Lead	9.7 9.1	36.0	0-44	9.7	13.4	117	3.2N	60-127		
Magnesium	anr ,									
Manganese	anr						21 5 2 2 3,233			
Molybdenum	anr						1,244			
Nickel	anr							A. V. V.		
Potassium	anr									
Selenium	anr						enional Priorita Descrip	1.		
Silver	anr							1		
Sodium	anr									
Thallium	anr									
Tin	anr							.i		
Vanadium	anr						27 H			
Zinc	anr									

Associated samples MP2101: F4951-8, F4951-9, F4951-10, F4951-11, F4951-12, F4951-13, F4951-14

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits (anr) Analyte not requested

Login Number: F4951 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2126 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/07/99

10/07/99

Metal	F4951-1		RPD	QC Limits	F4951-10R Original MS		Spikelot MPFLICP		QC Limits	
Aluminum	15400	16700	8.3	0-20	15400	23500	3286.86	247.3(a)	80-120	
Antimony	4.1	4.8	16.6	0-20	4.1	68.2	113.34	56.6N	80-120	
Arsenic	3.0	3.1	4.8	0-28	3.0	315	453.36	68.8N	72-110	
Barium	40.2	43.9	8.7	0-14	40.2	388	453.36	76.8	64-116	
Beryllium	0.77	0.86	11.3	0-20	0.77	9.5	11.33	76.7N	80-120	
Cadmium	0.0	0.0	NC	0-16	0.0	8.3	11.33	73.0	64-120	
Calcium	236	258	8.6	0-20	236	2290	2833.5	72.3N	80-120	
Chromium	7.8	8.6	8.8	0-33	7.8	42.1	45.34	75.5	66-119	
Cobalt	3.4	3.7	9.3	0-20	3.4	86.3	113.34	73.2N	80-120	
Copper	4.5	4.9	9.5	0-39	4.5	47.8	56.67	76.5	65-124	
Iron	13000	14100	8.5	0-20	13000	16400	3060.18	111.9	80-120	
Lead	67.6	74.1	9.1	0-44	67.6	213	113.34	128.2N	60-127	
Magnesium	1110	1220	8.8	0-20	1110	3300	2833.5	77.1N	80-120	
Manganese	56.9	62.0	8.7	0-20	56.9	142	113.34	75.3N	80-120	
Molybdenum	anr									
Nickel	4.5	5.0	10.3	0-30	4.5	90.2	113.34	75.6	71-119	
Potassium	1070	1160	8.1	0-20	1070	3060	2833.5	70.3N	80-120	
Selenium	0.0	0.0	NC	0-28	0.0	331	453.36	73.1	65-115	
Silver	0	0	NC	0-21	0	7.4	11.33	65.1	63-123	
Sodium	228	248	8.3	0-20	228	2200	2833.5	69.8N	80-120	
Thallium	0.00	0.00	NC	0-20	0.00	339	453 36	74.8N	80-170	
Tin	anr								•	
Vanadium	16.1	17.6	B.9	0-20	16.1	100	113.34	74.4N	80-120	
Zinc	18.0	19.8	9.5	0-31	18.0	102	113.34	74.5	69-120	

Associated samples MP2126: F4951-10R, F4951-11R, F4951-14R, F4951-15R, F4951-16R, F4951-17R, F4951-18R

Results < IDL are shown as zero for calculation purposes

^(*) Outside of QC limits (N) Matrix Spike Rec. outside of QC limits

⁽anr) Analyte not requested

⁽a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SERIAL DILUTION RESULTS SUMMARY

Login Number: F4951 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2126 Matrix Type: SOLID Methods: SW846 6010A

Units: ug/l

Prep Date:

10/07/99

Frep Date:			10/0//39	
Metal	F4951-1 Origina	OR 1 SDL 1:5	RPD	QC Limits
Aluminum	142000	172000	20.8	0-10
Antimony	37.6	46.2	22.8 (a)	0-10
Arsenic	27.3	34.0	24.3 (a)	0-10
Barium	372	449	20.7	0-10
Beryllium	7.13	14.5	103.6(a)	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	2190	2030	22.5	0 10
Chromium	72.5	91.0	25.5	0-10
Cobalt	31.0	37.4	20.6 (a)	0-10
Copper	41.3	38.8	6.0	0-10
Iron	120000	143000	19.3	0-10
Lead	626	818	30.8	0-10
Magnesium	10300,	12500	21.3	0-10
Manganese	526	633	20.3	0-10
Molybdenum	anr			
Nickel	41.7	56.3	35.2 (a)	0-10
Potassium	9930	12800	28.5	0-10
Selenium	0.00	0.00	NC	0-10
Silver	0.00	0.00	NC	0-10
Sodium	2110	1380	34.7 (a)	0-10
Thallium	0.00	0.00	NC	0-10
Tin	anr			
Vanadium	149	178	19.1	0-10
Zinc	167	401	140.9	0-10

Associated samples MP2126: F4951-10R, F4951-11R, F4951-14R, F4951-15R, F4951-16R, F4951-17R, F4951-18R

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

SERIAL DILUTION RESULTS SUMMARY

Login Number: F4951 Account: ITPAMONM : IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2101 Matrix Type: SOLID Methods: SW846 6010A

Units: ug/l

Prep Date:

09/28/99

Prep Date:		09/28/99	
Metal	F4952-1A Original SDL 1.5	מקא	QC Limits
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Cadmium	anr		
Çalcium	airr	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Chromium	anr		
Cobalt	anr	ting of some	
Copper	anr		
Iron	anr		
Lead	82.4 1020	822.5*	0-10
Magnesium	anr ,		
Manganese	anr		
Molybdenum	anr		
Nickel	anr		
Potassium	anr		
Selenium	anr		
Silver	anr		
Sodium	anr		
Thallium	anr		
Tin	anr		
Vanadium	anr		
Zinc	anr		

Associated samples MP2101: F4951-8, F4951-9, F4951-10, F4951-11, F4951-12, F4951-13, F4951-14

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (anr) Analyte not requested

Login Number: F4951 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1007M1.ASC QC Limits: result < RDL

Date Analyzed: 10/07/99 Run ID: MA1578

Methods: SW846 6010A Units: ug/l

<20.0

Metal	RDL	IDL	ICB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	30	18.0	<200	32.6	<2008	66.9	<200B		
Antimony	60	2.39	5.1	<60.0B	3.6	<60.0B	6.9	<60.0B		
Arsenic	10	3.4	-1.3	<10.0	-0.30	<10.0	3.5	<10.0B		
Barium	200	.39	0.90	<200B	1.0	<200B	0.80	<2008		
Beryllium	5.0	. 36	1.3	<5.0B	1.4	<5.0B	1.6	<5.0B		
Cadmium	4.0	.33	0.90	<4.0B	1.1	<4.0B	0.90	<4.0B		٠.
Calcium	5000	19.5	15.5	<5000	18.3	<5000	59.9	<5000B		• :
Chromium	10	. 637	0.80	<10.08	1.2	<10.0B	1.0	<10.0B		
Cobalt	50	.797	0.90	<50.0B	0.90	<50.0B	0.80	<50.0B		No.
Copper	25	.747	-0.30	<25.0	-0.20	<25.0	-0.70	<25.0		
Iron	100	32	14.3	<100	21.1	<100	36.0	<100B		
Lead	100	1.59	0.20	<100	1.8	<100B	1.4	<100		
Magnesium	5000	17.6	16.5	<5000	19.0	<5000B	61.6	<5000B		
Manganese	15 .	.16	0.80	<15.0B	1.0	<15.0B	0.80	<15.0B		
Molybdenum	50	.68	anr		:					
Nickel	40	ı	0.80	<40.0	0.30	<40.0	0.80	<40.0		
Potassium	5000	28.2	1.9	<5000	30.9	<5000B	16.3	<5000		
Selenium	100	2	1.1	<100	0.20	<100	0.70	<100		
Silver	10	. 96	1.0	<10.0B	0.50	<10.0	1.4	<10.0B		
Sodium	5000	153	-35.8	<5000	-105	<5000	-78.3	<5000		
Thallium	10	2.69	7.1	<10.08	4.4	<10.0B	4.7	<10.0B		
Tin	50	2.2	d III		: : :					
Vanadium	50	.717	1.6	<50.0B	1.2	<50.0B	1.1	<50.0B		-

(*) Outside of QC limits (anr) Analyte not requested

Zinc

<20.0 1.1

0.50

Login Number: F4951 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1007M1.ASC QC Limits: result < RDL Date Analyzed: 10/07/99 Run ID: MA1578 Methods: SW846 6010A

Limits: result < RDL Run ID: MJ

Units: ug/l

Metal	RDL	IDL	CCB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	30	13.1	<200	56.7	<200B	66.6	<200B	52.6	<200B
Antimony	60	2.39	4.7	<200	4.4	<60.0B	5.2	<60.0B	3.7	<60.0B
Arsenic	10	3.4	0.10	<500	1.3	<10.0	0.60	<10.0	-0.70	<10.0
Barium	200	.39	0.040	<1000	1.3	<200B	1.2	<200B	1.1	<200B
Beryllium	5.0	.36	1.1	<5.0	2.2	<5.0B	2.3	<5.0B	2.4	<5.0B
Cadmium	4.0	. 33	0.0	<50	0.80	<4.0B	0.80	<4.0B	1.1	<4.0B
Calcium	5000	19.5	-1.7	<5000	15.8	<5000	18.2	<5000	24.7	<5000B
Chromium	10	. 637	0.050	<50	1.4	<10.0R	1 7	e10 ወድ።	1 2	<10 0R
Cobalt	50	. 797	0.0	<50	1.0	<50.0B	0.80	<50.0B	0.70	<50.0
Copper	25	.747	-2.3	<25	-1.7	<25.0B	-1.7	<25.0B	-2.4	<25.0B
Iron	100	32	0.89	<100	32.2	<100B	61.8	<100B	41.2	<100B
Lead	100	1.59	9.8	<500	13.0	<100B	5.3	<100B	6.7	<100B
Magnesium	5000	17.6	0.89	<5000	19.4	<5000B	24.2	<5000B	21.3	<5000B
Manganese	15	.16	0.13	<15	1.2	<15.0B	1.9	<15.0B	1.8	<15.0B
Molybdenum	50	.68	anr		•					
Nickel	40	1	-0.43	<40	0.90	<40.0	2.5	<40.0B	2.4	<40.0B
Potassium	5000	28.2	-11	<5000	10.0	<5000	18.5	<5000	8.3	<5000
Selenium	100	2	1.0	<500	2.4	<100B	0.60	<100	1.2	<100
Silver	10	. 96	0.98	<50	2.1	<10.0B	1.0	<10.0B	0.40	<10.0
Sodium	5000	153	-250	<5000	-154	<5000B	-0.50	< 5000 .	-100	<5000
Thallium	10	2.69	3.2	<500	7.2	<10.0B	7.8	<10.0B	4.7	<10.0B
Tin	50	2.2	a nn	19 1 Tu 7 1 15 1 1 1 1 1	la La					
Vanadium	50	.717	0.37	<50	1.6	<50.0B	1.8	<50.0B	1.6	<50.0B
Zinc	20	. 83	-0.75	<20	0.30	<20.0	0.20	<20.0	0.40	<20.0
	20		-0.75	. 420	3.30	~ E U - U	V.20	420.0	J. 30	740.0

^(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4951 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1007M1.ASC QC Limits: result < RDL

Date Analyzed: 10/07/99 Methods: SW846 6010A Run ID: MA1578 Units: ug/l

QC Limits: re	esult < RI	OL		Run ID:	MA1578	Units: u	ġ/l
Metal	RDL	IDL	CCB raw	CC final ra		CCB	final
Aluminum	200	30	43.6	<200B 44	.5 <200	36.1	<200
Antimony	60	2.39	6.2	<60.0B 5.	5 <200	2.8	<200
Arsenic	10	3.4	0.80	<10.0 0.	98 <500 :	-0.80	<500
Barium	200	.39	1.4	<200B 0.	72 <1000	0.38	<1000
Beryllium	5.0	.36	2.3	<5.0B 2.	0 <5.0	1.7	<5.0
Cadmium	4.0	.33	1.0	<4.0B 0.	57 <50	0.36	<50
Calcium	5000	19.5	60.6	<5000B 14	.7 <5000	6.3	<5000
Chromium	10	.637	1.6	<10.0B 0.	91 <50	0.43	<50
Cobalt	50	. 797	1.2	<50.0B 0.	60 <50	0.20	<50
Copper	25	.747	-1.2	<25.0B -2	.0 <25	-2.1	<25
Iron	100	32	30.4	<100 12	.5 <100	-0.10	<100
Lead	100	1.59	6.B	<100B 14	.6 <500	18.8	<500
Magnesium	5000	17.6	24.1	<5000B 14	.4 <5000	7.3	<5000
Manganese	15	.16	1.5	<15.0B 0.	79 <15	0.44	<15
Molybdenum	50	-68	anr				
Nickel	40	1	2.1	<40.0B -0	.090 <40	-0.020	<40
Potassium	5000	28.2	85.1	<5000B 51	.0 <5000	38.1	<5000
Selenium	100	2	1.8	<100 -0	.52 <500	-0.21	<500
Silver	10	.96	1.7	<10.0B 1.	8 <50	1.5	<50
Sodium	5000	153	105	<5000 22	1 <5000	68.7	<5000
Thallium	10	2.69	8.7	<10.0B 7.	4 <500	4.2	<500
Tin	50	2.2	anr				
Vanadium	50	.717	1.6	<50.0B 1-	1 <50	0.49	<50 -
Zinc	20	.83	0.50	<20.0 0.	020 <20	-0.35	<20

^(*) Outside of QC limits (anr) Analyte not requested

BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: F4951

Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2126 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/07/99

Prep Date:				10/07/99
Metal	RDL	IDL	MB raw	final
Aluminum	20.0	3	3.4	<20.0
Antimony	6.0	.24	0.59	<6.0
Arsenic	1.0	. 34	~0.20	<1.0
Barium	20.0	.04	0.35	<20.0
Beryllium	0.50	.04	0.1	<0.50
Cadmium	0.40	. 03	0.006	<0.40
Calcium	500	2	0.92	<500
Chromium	1.0	.06	0.12	<1.0
Cobalt	5.0	.08	~0.001	<5.0
Copper	2.5	.07	-0.09	<2.5
Iron	10.0	3 - 2	3.6	<10.0
Lead	10.0	.16	6.9	<10.0
Magnesium	500	1.8	0.57	<500
Manganese	1.5	.02	0.06	<15
Molybdenum	5.0	.07	anr	
Nickel	4.0	.1	0.04	<4.0
Potassium	500	2.8	1.2	<500
Selenium	10.0	. 2	-0.11	<10.0
Silver	1.0	.1	0.14	<1.0
Sodium	500	15.3	-14.6	<500
Thallium	1.0	. 27	0 27	-1 0
Tin	5.0	. 22	anr	
Vanadium	5.0	.07	0.05	₹5. 0
Zinc	4.0	. 08	3.9	<4.0

Associated samples MP2126: F4951-10R, F4951-11R, F4951-14R, F4951-15R, F4951-16R, F4951-17R, F4951-18R

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (anr) Analyte not requested

BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: F4951 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2121 Matrix Type: SOLID

Methods: SW846 6010A

Units: mg/kg

Prep Date:

10/05/99

Prep Date:				10/05/99
Metal	RDL	IDL	MB raw	final
Aluminum	20.0	3	4.2	<20.0
Antimony	6.0	. 24	0.06	<6.0
Arsenic	1.0	. 34	-0.07	<1.0
Barium	20.0	. 04	0.26	<20.0
Beryllium	0.50	.04	0.08	<0.50
Cadmium	0.40	- 03	0.11	<0.40
Calcium	500	2	5.8	<500
Chromium	1.0	.06	0.10	<1.0
Cobalt	5.0	.08	-0.01	<5.0
Copper	2.5	.07	0.04	<2.5
Iron	10.0	3.2	2.8	<10.0
Lead	10.0	.16	1.4	<10.0
Magnesium	500	1.8	1.4	<500
Manganese	1.5	. 02	0.06	<1.5
Molybdenum	5.0	.07	anr	
Nickel	4.0	.1	0.23	<4.0
Potassium	500	2.8	5.5	<500
Selenium	10.0	.2	0.24	<10.0
Silver	1.0	.1	0.14	<1.0
Sodium	500	15.3	-1.7	<500
Thallium	1.0	.27	0.21	<1.0
Tin	5.0	. 22	anr	
Vanadium	5.0	.07	0.04	<5.0
Zinc	4.0	.08	3.7	<4.0

Associated samples MP2121: F4951-9R

Results < IDL are shown as zero for calculation purposes (\star) Outside of QC limits (anr) Analyte not requested

Login Number: F4951 Account - ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2121 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/05/99

10/05/99

			,,					20,00,00	
Metal	F4951-9R Original		RPD	QC Limits	F4951-9R Original		Spikelot MPFLICP		QC Limits
Aluminum	19500	21100	7.9	0-20	19500	27600	3183.8	255.6(b)	80-120
Antimony	0.68	1.1	45.8 (a)	0-20	0.68	66.2	109.79	59.7N	80-120
Arsenic	3.0	3.3	11.8	0-28	3.0	332	439.15	74.9	72-110
Barium	42.1	45.8	8.5	0-14	42.1	410	439.15	83.7	64-116
Beryllium	0.79	0.87	9.5	0-20	0.79	10.1	10.98	84.5	80-120
Cadmium	0.0	0.06	200.0(a)	0-16	0.0	8.9	10.98	81.2	64-120
Calcium	321	474	3A 6 (A)	0-20	321	2670	2744.66	85.7	80-120
Chromium	20.6	22.3	7.8	0-33	20.6	57.6	43.91	84.1	66-119
Cobalt	5.3	5.8	8.5	0-20	5.3	94.2	109.79	80.9	80-120
Copper	6.9	10.2	38.6	0-39	6.9	53.4	54.89	84.7	65-124
Iron	16800	18200	7.9	0-20	16800	20000	2964.23	106.0	80-120
Lead	28.1	30.7	8.7	0-44	28.1	118	109.79	82.0	60-127
Magnesium	1310	1430	8.4	0-20	1310	3610	2744.66	83.8	80-120
Manganese	64.8	70.2	8.1	0-20	64.8	157	109.79	84.0	80-120
Molybdenum	anr								
Nickel	8.5	9.2	8.4	0-30	8.5	99.6	109.79	83.0	71-119
Potassium	734	792	7.6	0-20	734	3270	2744.66	92.4	80-120
Selenium	0.0	0.0	NC	0-28	0.0	351	439.15	79.9	65-115
Silver	0.0	0	NC	0-21	0.0	7.9	10.98	72.0	63-123
Sodium	246	272	9.9	0-20	246	2310	2744.66	75.1N	80-120
Thallium	0.00	0.00	NC	0-20	0.00	350	439.15	79.8N	00-120
Tin	anr								•~
Vanadium	27.9	30.2	7.9	0-20	27.9	117	109.79	81.5	80-120
Zinc	21.8	25.0	13.3	0-31	21.8	110	109.79	80.3	69-120

Associated samples MP2121: F4951-9R

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits $% \left\{ \frac{1}{2}\right\} =0$

⁽N) Matrix Spike Rec. outside of QC limits

 ⁽a) Analyte not requested
 (a) RPD acceptable due to low duplicate and sample concentrations.
 (b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Login Number: F4951

Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2121 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/05/99

Prep Date:				10/05/99	·	
Metal	F4951-9R Original		Spikelot MPFLICP		QC Limits	
Aluminum	19500	28900	3347.92	280.2(a)	80-120	
Antimony	0.68	69.1	115.45	59.3N	80-120	
Arsenic	3.0	345	461.78	74.1	72-110	
Barium	42.1	428	461.78	83.6	64-116	
Beryllium	0.79	10.5	11.54	84.0	80-120	
Cadmium	0.0	9.3	11.54	80.2	64-120	
Calcium	321	2780	2886.14	85.3	80-120	
Chromium	20.6	59.9	46.18	85.1	66-119	
Cobalt	5.3	98.0	115.45	80.3	80-120	
Copper	6.9	55.9	57.72	84.8	65-124	
Iron	16800	20800	3117.03	127.0(a)	80-120	
Lead	28.1	123	115.45	82.1	60-127	
Magnesium	1310	3750	2886.14	84.3	80-120	
Manganese	64.8	164	115.45	85.6	80-120	
Molybdenum						
Nickel	8.5	104	115.45	82.4	71-119	
Potassium	734	3430	2886.14	93.3	80-120	
Selenium	0.0	365	461.78	79.1	65-115	
Silver	0.0	8.4	11.54	72.3	63-123	
Sodium	246	2420	2886.14	75.2N	80-120	
Thallium	0.00	365	461.78	79.0N	80-120	
Tin						
Vanadium	27.9	122	115.45	81.9	80-120	
Zinc	21.8	114	115.45	79.9	69-120	

Associated samples MP2121: F4951-9R

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

⁽N) Matrix Spike Rec. outside of QC limits

⁽anr) Analyte not requested

⁽a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Login Number: F4951 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2126 Matrix Type: SOLID Methods: SW846 6010A Units: mg/kg

Prep Date:

10/07/99

			10/07/99	
		-		QC Limits
15400	23800	3319.41	252.8(a)	80-120
4.1	69.5	114.46	57.1N	80-120
3.0	319	457.85	69.0N	72-110
40.2	394	457.85	77.2	64-116
0.77	9.6	11.45	77.1N	80-120
0.0	8.4	11.45	73.1	64-120
236	2310	2861.56	72.5N	80-120
7.8	42.5	45.78	75.8	66-119
3.4	87.4	114.46	73.4N	80-120
4.5	48.5	57.23	77.0	65-124
13000	16600	3090.48	117.2	80-120
67.6	179	114.46	97.2	60-127
1110	3330	2861.56	77.6N	80-120
56.9	144	114.46	76.1N	80-120
4.5	91.2	114.46	75.8	71-119
1070	3120	2861.56	71.6N	80-120
0.0	332	457.85	72.5	65-115
0	7.4	11.45	64.9	63-123
228	2200	2861.56	68.8N	80-120
0.00	344	457.85	75.1N	00-120
		•		<u>.</u>
16.1	102	114.46	74.8N	80-120
18.0	103	114.46	74.6	69-120
	Origina 15400 4.1 3.0 40.2 0.77 0.0 236 7.8 3.4 4.5 13000 67.6 1110 56.9 4.5 1070 0.0 0 228 0.00	4.1 69.5 3.0 319 40.2 394 0.77 9.6 0.0 8.4 236 2310 7.8 42.5 3.4 87.4 4.5 48.5 13000 16600 67.6 179 1110 3330 56.9 144 4.5 91.2 1070 3120 0.0 332 0 7.4 228 2200 0.00 3+1	Original MSD MPFLICP 15400 23800 3319.41 4.1 69.5 114.46 3.0 319 457.85 40.2 394 457.85 0.77 9.6 11.45 0.0 8.4 11.45 236 2310 2861.56 7.8 42.5 45.78 3.4 87.4 114.46 4.5 48.5 57.23 13000 16600 3090.48 67.6 179 114.45 110 3330 2861.56 56.9 144 114.45 4.5 91.2 114.46 1070 3120 2861.56 0.0 332 457.85 0 7.4 11.45 228 2200 2861.56 0.00 3+4 457.85 16.1 102 114.46	Original MSD MPFLICE % Rec 15400 23800 3319.41 252.8(a) 4.1 69.5 114.46 57.1N 3.0 319 457.8\$ 69.0N 40.2 394 457.8\$ 77.2 0.77 9.6 11.45 77.1N 0.0 8.4 11.45 73.1 236 2310 2861.56 72.5N 7.8 42.5 45.78 75.8 3.4 87.4 114.46 73.4N 4.5 48.5 57.23 77.0 13000 16600 3090.48 117.2 67.6 179 114.45 97.2 110 3330 2861.56 77.6N 56.9 144 114.46 75.8 1070 3120 2861.56 71.6N 0.0 332 457.85 72.5 0 7.4 11.45 64.9 228 2200 2861.56 68.8N

Associated samples MP2126: F4951-10R, F4951-11R, F4951-14R, F4951-15R, F4951-16R, F4951-17R, F4951-18R

Results < IDL are shown as zero for calculation purposes

^(*) Outside of QC limits

⁽N) Matrix Spike Rec. outside of QC limits

⁽anr) Analyte not requested

⁽a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SERIAL DILUTION RESULTS SUMMARY

Login Number: F4951 Account. ITPAMONR1597 - Bainbridge

QC Batch ID: MP2121 Matrix Type: SOLID

Methods: SW846 6010A

Units: ug/l

Prep Date:

10/05/99

*				
Metal	F4951-9R Original	SDL 1.5	מפא	QC Limits
Aluminum	183000	199000	9.0	0-10
Antimony	6.34	0.00	100.0(a)	0-10
Arsenic	27.9	36.8	31.9 (a)	0-10
Barium	394	457	15.7	0-10
Beryllium	7.43	12.2	64.9 (a)	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	3010	3600	19.6	0 10
Chromium	193	212	9.7	0-10
Cobalt	50.0	57.7	15.4	0-10
Copper	64.9	67.7	4.3	0-10
Iron	158000	176000	11.8	0-10
Lead	264	292	10.9	0-10
Magnesium	12300	13500	9.7	0-10
Manganese	607	690	13.7	0-10
Molybdenum	anr			
Nickel	79.6	97.2	22.0	0-10
Potassium	6880	8120	18.1	0-10
Selenium	0.00	0.00	NC	0-10
Silver	0.00	0.00	NC	0-10
Sodium	2310	2560	10.9 (a)	0-10
Thallium	0.00	0.00	NC	0-10
Tin	anr	;		
Vanadium	262	286	9.2	0-10
Zinc	205	454	121.6	0-10

Associated samples MP2121: F4951-9R

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

OVERVIEW

Five (5) soil samples were analyzed for lead by EPA SW-846 Method 6010, and three (3) of these samples were also analyzed for TAL metals by EPA SW-846 Methods 6010 and 7471. The laboratory gave the samples analyzed for the TAL metals the suffix CR. No site-specific Quality Control samples were analyzed. Accutest Laboratories, located in Orlando, FL, performed the analyses.

SUMMARY

These samples were analyzed successfully.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

- Lead was recovered high during the initial low concentration calibration of October 5.
- Continuing calibration blanks contained estimated concentrations of aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, cobalt, iron, lead, magnesium, manganese, nickel, thallium, vanadium and zinc. Sample results with concentrations less than five (5) times the blank concentration are qualified as blank contaminated (B).
- For samples 707-134C, 707-278CR and 707-134CR:
 - Matrix spike recoveries were low (<75%) for antimony, manganese, silver and sodium on October 2, while the matrix spike duplicate on that date was recovered low for aluminum, antimony and silver.
 - The serial dilution RPD was high for lead.
- For samples 404-133C, 404-167C, 404-144C, 707-278C and 404-167CR:
 - Matrix spike recoveries were low (<75%) for lead, silver, sodium and vanadium, and high (>125%) for magnesium and manganese. Matrix spike duplicate recoveries were low for antimony, and high for copper, lead, magnesium, manganese and potassium.
 - The duplicate analysis had a high RPD for aluminum, arsenic, calcium, copper, lead, magnesium, manganese, nickel, potassium, vanadium and zinc.
 - Serial dilution RPDs were high for aluminum, barium, calcium, chromium, copper, lead, magnesium, manganese, nickel, potassium, vanadium and zinc.

NOTES

- Continuing calibration blanks of October 1 contained estimated concentrations of lead. One of four
 continuing calibration blanks analyzed on October 5 contained estimated concentrations of aluminum,
 antimony, arsenic, barium, beryllium, cadmium, calcium, cobalt, iron, magnesium, manganese, nickel,
 thallium, vanadium and zinc.
- The average relative percent difference between the total lead results and lead results from the TAL metals analyses for the three (3) samples that had both analyses performed is 3.06 percent
- For samples 707-134C, 707-278CR and 707-134CR:
 - The duplicate analysis had a high RPD for antimony, although no qualification is necessary due to the low sample concentration.
- For samples 404-133C, 404-167C, 404-144C, 707-278C and 404-167CR:
 - The duplicate analysis had high RPDs for antimony, barium, cobalt and sodium, although no qualification is necessary due to the low sample concentration.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification

(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation

(Can be used for both positive results and sample quantitation limits)

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be biased high. Actual value is expected to be lower
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

Other Codes

- Q = No analytical result.
- NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Site: FNTC - Bainbridge - Small Arms Ranges Confirmation Results

Lab: Accutest

Reviewer: Michael J. Lacy, Ph.D.

Date: 08 October 1999 Repor Number: F4960

Sample I.D.	404-13	3C	404-16	37C	404-14	4C	707-27	'8C	707-13	34C
Matrix	Soil		Soi		Soi		Soi	}	Soi	i
Units	mg/k	g	mg/k	g	mg/k	g	mg/k	g	mg/k	g
Date Sampled	9/25/19	999	9/25/1	999	9/25/1	999	9/23/1	999	9/23/19	999
Time Sampled	111:	2	114	В	115	1	113	3	145	7
% Moisture	22.7	7	11.5	5	11.	7 .	18.2	2	17.4	1
pH	N/A		N/A		N/A		N/A		N/A	
Dilution Factor	1.0		1.0		1.0		1.0		1.0	
	Result	VQ	Result	VQ	Result	VQ	Result	VQ	Result	VQ
Lead	17.5	JBL	187	JL	21.1	JBL	33.6	JBL	79.9	JBL

Aluminum			9920	J		13800	К	15600	Κ
Antimony			1.3	JBL		<0.28	UL	0.73	JBL
Arsenic		l	3.9	JB		2.8	В	2.7	В
Barium			59.5	J		30.2		39.1	
Beryllium	T		0.71	В		0.62	В	0.76	В
Cadmium	_		<0.04	υ		<004	U	<0.04	U
Calcium	_		2110	J		 228	JB	568	
Chromium	_		10.0	JB		13.9		5.1	В
Cobalt			5.6	В	1	 3.9	JB	3	JB
Copper			8.1	JBK		6.5	В	4.2	В
Iron	_		10500			13400		10300	
Lead			190	LJ		 32.2	LJ	82.6	LJ
Magnesium			1250	JK		1000		948	
Manganese	_		437	JK	-	 54.6	L	52.6	L
Mercury	-		0.02	JB		0.02	JB	<0.01	U
Nickel			6.4	JB		62	В	3.9	JB
Potassium	—		590	JK		 501	В	933	
Selenium			<0.22	Ū		<022	U	<0.23	U
Silver			<0.11	ÜŁ		<0.10	UL	<0.11	ŲL
Sodium			259	BL		165	BL	197	BL
Thallium			<0.29	U		 <0.29	Ü	<0.30	U
Vanadum			18.0	JL		22.2	L	11.2	L
Zinc			38.2	J		19.7	В	32.0	В

VQ - Validation Qualifier

ATTACHMENT C

Laboratory Reported Results



Page 1 of 1

Client Sample ID: 404-133C Lab Sample ID: F4960-1 Matrix: SO - Soil

Date Sampled: 09/25/99 Date Received: 09/28/99 Percent Solids: 85.0

Project:

Bainbridge

Metals Analysis

 Analyte
 Result
 RDL
 Units
 DF
 Prep
 Analyzed By
 Method

 Lead
 17.5
 11.1
 mg/kg
 1
 10/01/99
 10/01/99
 SJL
 SW846 6010A

RDL = Reported Detection Limit



Page 1 of 1

Client Sample ID: 404-167C Lab Sample ID: F4960-2

Matrix: SO - Soil

Date Sampled: 09/25/99 Date Received: 09/28/99

Percent Solids: 85.6

Project: Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

Lead 187 10.9 mg/kg 1 10/01/99 10/01/99 SJL SW846 6010A

RDL = Reported Detection Limit

666664



Page 1 of 1

Client Sample ID: 404-144C

Lab Sample ID: Matrix:

F4960-3

SO - Soil

Date Sampled: 09/25/99

Date Received: 09/28/99

Percent Solids: 88.1

Project:

Bainbridge

Metals Analysis

Result RDL Method Analyte Units DF Prep Analyzed By

21.1 11.7 10/01/99 10/01/99 SJL Lead mg/kg 1 SW846 6010A

RDL = Reported Detection Limit



Page 1 of 1

Client Sample ID: 707-278C Lab Sample ID:

Matrix:

F4960-4 SO - Soil Date Sampled: 09/23/99

Date Received: 09/28/99

Percent Solids: 89.3

Project:

Bainbridge

Metals Analysis

Analyte

Result

RDL

Units DF Prep

Analyzed By Method

Lead

33.6

11.2 mg/kg 1 10/01/99 10/01/99 SJL

SW846 6010A



Page 1 of 1

Client Sample ID: 707-134C Lab Sample ID: F4960-5

Matrix: SO - Soil

Date Received: 09/28/99 Percent Solids: 85.4

Project:

Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

Lead 79.9 11.2 mg/kg 1 10/02/99 10/01/99 SJL SW846 6010A

RDL = Reported Detection Limit



Page 1 of 1

Client Sample ID: 404-167C Lab Sample ID:

F4960-2R SO - Soil

Date Sampled: 09/25/99 Date Received: 09/30/99

Percent Solids: 85.6

Matrix: Project:

Bainbridge

Metals Analysis

Analyte	Result 1	RDL	Units	DF	Prep	Analyzed	Ву	Method
Aluminum	9920	21.8	mg/kg	1	10/01/99	10/05/99	JK	SW846 6010A
Antimony	1.3 B	6.6	mg/kg	1	10/01/99	10/05/99	JК	SW846 6010A
Arsenic	3.9	1.1	mg/kg	1	10/01/99	10/05/99	JK	SW846 6010A
Barium	59.5	21.8	mg/kg	1	10/01/99	10/05/99	ĴΚ	SW846 6010A
Beryllium	0.71	0.55	mg/kg	1	10/01/99	10/05/99	JК	SW846 6010A
Cadmium	0.04 U (0.44	mg/kg	1	10/01/99	10/05/99	JK	SW846 6010A
Calcium	2110	546	mg/kg	1	10/01/99	10/05/99	JΚ	SW846 6010A
Chromium	10.0	1.1	mg/kg	1	10/01/99	10/05/99	JK.	SW846 6010A
Cobalt	5.6	5.5	mg/kg	1	10/01/99	10/05/99	JK	SW846 6010A
Copper	8.1	2.7	mg/kg	1	10/01/99	10/05/99	JК	SW846 6010A
Iron	10500	10.9	mg/kg	1	10/01/99	10/05/99	JK	SW846 6010A
Lead	190	10.9	mg/kg	1	10/01/99	10/05/99	JK	SW846 6010A
Magnesium	1250	546	mg/kg	1	10/01/99	10/05/99	JK	SW846 6010A
Manganese	437	1.6	mg/kg	1	10/01/99	10/05/99	JK	SW846 6010A
Mercury	0.02 B	0.18	mg/kg	i	10/02/99	10/04/99	SJL	SW846 7471A
Nickel	6.4	4.4	mg/kg	1	10/01/99	10/05/99	JК	SW846 6010A
Potassium	590	546	mg/kg	1	10/01/99	10/05/99	JK	SW846 6010A
Selenium	0.22 U	10.9	mg/kg	1	10/01/99	10/05/99	JK	SW846 6010A
Silver	0.11 U	1.1	mg/kg	1	10/01/99	10/05/99	JK	SW846 6010A
Sodium	259 B	546	mg/kg	i	10/01/99	10/05/99	JК	SW846 6010A
Thallium	0.29 U	1.1	mg/kg	1	10/01/99	10/05/99	JК	SW846 6010A
Vanadium	18.0	5.5	mg/kg	1	10/01/99	10/05/99	JK	SW846 6010A
Zinc	38.2	2.2	mg/kg	1	10/01/99	10/05/99	JK	SW846 6010A

RDL = Reported Detection Limit



Page 1 of 1

Client Sample ID: 707-278C Lab Sample ID: F4960-4R

SO - Soil

Date Sampled: 09/23/99 Date Received: 09/30/99 Percent Solids: 89.3

Project:

Matrix:

Bainbridge

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	By	Method
Aluminum	13800	21.5	mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Antimony	0.26 U	6.5	mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Arsenic	2.8	1.1	mg/kg	1	10/02/99	10/05/99	JК	SW846 6010A
Barium	30.2	21.5	mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Beryllium	0.62	0.54	mg/kg	1	10/02/99	10/05/99	JК	\$W\$46 6010A
Cadmium	0.04 U	0.43	mg/kg	1	10/02/99	10/05/99	ЛK	SW846 6010A
Calcium	228 B	538	mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Chromium	13.9	1.1	mg/kg	1	10/02/99	10/05/99	JК	SW846 6010A
Cobalt	3.9 B	5.4	mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Соррег	6.5	2.7	mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Iron	13400	10.8	mg/kg	1	10/02/99	10/05/99	JΚ	SW846 6010A
Lead	32.2	10.8	mg/kg	1	10/02/99	10/05/99	JΚ	SW846 6010A
Magnesium	1000	538	mg/kg	1	10/02/99	10/05/99	JК	SW846 6010A
Manganese	54.6	1.6	mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Mercury	0.02 B	0.18	mg/kg	1	10/02/99	10/04/99	SJL	SW846 7471A
Nickel	6.2	4.3	mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Potassium	501 B	538	mg/kg	1	10/02/99	10/05/99	JК	SW846 6010A
Selenium	0.22 U	10.8	mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Silver	0.10 U	1.1	mg/kg	1	10/02/99	10/05/99	JК	SW846 6010A
Sodium	165 B	538	mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Thallium	0.29 U	1.1	mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Vanadium	22.2	5.4	mg/kg	1	10/02/99	10/05/99	JК	SW846 6010A
Zinc	19.7	2.2	mg/kg	1	10/02/99	10/05/99	JΚ	SW846 6010A



Page 1 of 1

Client Sample ID: 707-134C Lab Sample ID:

F4960-5R SO - Soil

Date Sampled: 09/23/99 Date Received: 09/30/99

Percent Solids: 85.4

Project:

Matrix:

Bainbridge

Metals Analysis

Analyte	Result R	DL Units	DF	Prep	Analyzed	By	Method
Aluminum	15600 22	2.3 mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Antimony	0.73 B 6.		1	10/02/99	10/05/99	JΚ	SW846 6010A
Arsenic	2.7 1.		1	10/02/99	10/05/99	JK	SW846 6010A
Barium	39.1 22	2.3 mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Beryllium		56 mg/kg	1	10/02/99	10/05/99	1K	SW846 6010A
Cadmium	0.04 U 0.	45 mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Calcium	568 55		1	10/02/99	10/05/99	JK	SW846 6010A
Chromium	5.1 1.		1	10/02/99	10/05/99	JK	SW846 6010A
Cobalt	3.0 B 5.	6 mg/kg	1	10/02/99	10/05/99	JΚ	SW846 6010A
Copper	4.2 2.	8 mg/kg	1	10/02/99	10/05/99	JК	SW846 6010A
Iron	10300 11	.2 mg/kg	1	10/02/99	10/05/99	JΚ	SW846 6010A
Lead	82.6	.2 mg/kg	1	10/02/99	10/05/99	jκ	SW846 6010A
Magnesium	948 55	8 mg/kg	1	10/02/99	10/05/99	JΚ	SW846 6010A
Manganese	52.6 1.	7 mg/kg	1	10/02/99	10/05/99	JК	SW846 6010A
Mercury	0.01 U 0.	18 mg/kg	1	10/02/99	10/04/99	SJL	SW846 7471A
Nickel	3.9 B 4.	5 mg/kg	1	10/02/99	10/05/99	ΙK	SW846 6010A
Potassium	933 55	58 mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Selenium	0.23 U 1	.2 mg/kg	1	10/02/99	10/05/99	JК	SW846 6010A
Silver	0.11 U 1.	1 mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Sodium	197 B 55	8 mg/kg	1	10/02/99	10/05/99	JК	SW846 6010A
Thallium	0.30 U 1.	1 mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A
Vanadium	11.2 5.		1	10/02/99	10/05/99	JК	SW846 6010A
Zinc	32.0 2.	2 mg/kg	1	10/02/99	10/05/99	JK	SW846 6010A

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation

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Reference Document

ANALYSIS Å "UEST AND CHAIN OF CUSTODY RECORD*

СОВЪОВЪЦІОИ ТЕСНИОГОСЬ

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Accutest Laboratories Southeast Case Narrative

Job (SDG) No.: 1-5		
Samples: <u>F4960</u>		
Analysis Performed:		
1) Sample Receipt Conformance / Non-Conformance	mance Summary	
Custody Seals on Coolers?	Y& (*)	No ()
Custody Seals in Tact?	Yes (*)	No () ,
Chain of Custody Sealed in Plastic?	Yes ()	No ()
Chain of Custody Filled out Properly?	Yes (V)	No ()
Enough ice and Packing material?	Yes (*)	No ()
All Bottles Sealed?	Yes (V)	No ()
Any Bottles Broken?	Yes ()	No ()
Labels in good condition?	Yes ()	No ()
Labels agree with chain of custody?	Yes (No ()
Correct Containers Used?	Yes (No ()
Preserved Properly?	(V27	No ()
Sufficient Sample?	Yes (N)	No ()
Comments:		-

Accutest Laboratories Southeast <u>Case Narrative</u>

3) Metals Conformance / Non-conformance Summary	,		
Blank level below reporting limits? MP 2115, m02117 MP 2111	2 Yes (4)	No ()	
If no, list analytes above reporting limits:			
Spike blank (LCS) data within acceptable Limits? MP 2115, MP	2112 Yes (V)	No ()	
If no, list analytes outside of acceptable limits. Refer to QC summary for a	201	·	
Matrix spike data within acceptable limits?	Yes ()	No (V)	
If no, list analytes outside of acceptable limits. Refer to QC summary for ac See page 49-52 for details	dditional Comments	Sto, Mn, Ag. Al, Be, Co, Fe	
Matrix duplicate data within acceptable limits?	Yes ()	No (V)	
If no. list analytes outside of acceptable limits. Refer to QC summary for at See pages 49-52 for details	dditional Comments	See Above	
Samples prepared and analyzed within holding time?	Yes (V)	No ()	
If holding times were not met, list analytes where holding times were excee	eded and explain:		
All analytical criteria met (calibration, CCV, ICV, CCB, etc.)?	Yes (V)	No ()	
If not met, list effected samples and analytes:			- -
Comments: M5/MSD failures due to target	analytes in	u watrix	

The second second

From Rice Melians

CC: F4960, Harry, 3 Xbether

Bai 1)

Re: Selogs

Ler Dick heater's request.

Ounple F4960-2, F4960-4, & F4960-5

Unuld be now for TAL Metal w/
a 24 he TAT. Here sample ID's

are as applicated: 404-167 C, 707-278 C

and 707-134 C.

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leno to File

ida Welland 1960, Hacey, & Xbeather

Dick heater's request Janpu F4960-2, F4960-4 & F4960-5 (Should be san for TAL Metal) w/ a 24 he TAT. Her sample ID's are as opeloured: 404-167C, 707-278C.

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LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F4960 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1001M1.ASC
QC Limits: 70 to 130 % Recovery

Date Analyzed: 10/01/99 Run ID: MA1569

Methods: EPA 200.7, SW846 6010A Units: ug/l

Metal	CRI True	CRIA True	CRIA Results	% Rec	CRI Results	% Rec
Aluminum	200					
Antimony		5.0				4
Arsenic		10	anr			
Barium	200					
Beryllium	5.0					
Cadmium	5.0					
Calcium	1000			* * * *		
Chromium	10					
Cobalt	50					
Copper	25			e taski Validi		
Iron	300					
Lead		5.0	3.8B	76.0		
Magnesium	5000					사이 사용되었다. 사이 기업적
Manganese	15					
Molybdenum	50					
Nickel	40					
Potassium	5000					10 - 20 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Selenium		10	anr			
Sílver	10					
Sodium	5000					(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
Thallium		10	anr			50 등 2000년 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
Ţin	50					
Vanadium	50					
Zinc	20					

^(*) Outside of QC limits (anr) Analyte not requested

BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: F4960 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2112 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/01/99

Prep Date:				10/01/9
Metal	RDL	IDL	MB raw	final
Aluminum	20	3	14.5	<20
Antimony	6.0	.239	-0.85	<6.0
Arsenic	1.0	.345	-0.20	<1.0
Barium	20	.039	0.0010	<20
Beryllium	0.50	.0363	0.17	<0.50
Cadmium	0.40	.033	-0.060	<0.40
Calcium	500	1.95	-0.90	<500
Chromium	1.0	.0637	-0.026	<1.0
Cobalt	5.0	.0797	-0.024	<5.0
Copper	2.5	.0747	-0.41	<2.5
Iron	10	3.2	8.3	<10
Lead	10	.159	-0.089	<10
Magnesium	500	1.76	0.31	<500
Manganese	1.5	.016	0.019	<1.5
Molybdenum	5.0	.068	anr	
Nickel	4.0	.1	-0.045	<4.0
Potassium	500	2.82	-1.0	<500
Selenium	10	.204	0.34	<10
Silver	1.0	.0963	0.22	<1.0
Sodium	500	15.3	-9.8	<500
Thallium	1.0	.269	0.15	<1.0
Tin	5.0	.223	anr	
Vanadium	5.0	.0717	-0.015	<5.0
Zinc	2.0	.083	-0.049	<2.0

Associated samples MP2112: F4960-1, F4960-2, F4960-3, F4960-4, F4960-2R

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (anr) Analyte not requested

BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: F4960 ACCOUNT: ITPAMONK - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2111 Matrix Type: SOLID

Methods: SW846 6010A

Units: mg/kg

Prep Date:

10/02/99

Prep Date:				10/02/
Metal	RDL	IDL	MB ra₩	final
Aluminum	20	3	4.5	<20
Antimony	6.0	.239	-0.49	<6.0
Arsenic	1.0	.345	-0.27	<1.0
Barium	20	.039	1.3	<20
Beryllium	0.50	.0363	0.17	<0.50
Cadmium	0.40	.033	-0.035	<0.40
Calcium	500	1.75	33.5	<500
Chromium	1.0	.0637	0.010	<1.0
Cobalt	5.0	.0797	-0.031	<5.0
Copper	2.5	. 0747	0.039	<2.5
Iron	10	3.2	0.98	<10
Lead	10	.159	1.9	<10
Magnesium	500 .	1.76	1.9	<500
Manganese	1.5	.016	0.090	<1.5
Molybdenum	5.0	.068	anr	
Nickel	4.0	.1	0.62	<4.0
Potassium	500	2.82	2.6	<500
Selenium	10	.204	0.39	<10
Silver	1.0	.0963	0.27	<1.0
Sodium	500	15.3	110	<500
Thallium	1.0	.269	-0.051	<1.0
Tin	5.0	.223	anr	
Vanadium	5.0	.0717		<5.0
Zinc	5.0	.083	4.6	<5.0
	3.0	.003	4.0	~5.0 di. ti

Associated samples MP2111: F4960-5, F4960-4R, F4960-5R

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

(anr) Analyte not requested

000046

Login Number: F4960 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1001M1.ASC QC Limits: result < RDL Date Analyzed: 10/01/99 Run ID: MA1569

Methods: EPA 200.7, SW846 6010A Units: ug/l

QC Limits: re	esult < R	DL		Run .	ID: MAI	767	Units:	ug/1		
Metal	RDL	IDL	ICB raw	final	CCB	final	CCB	final	CCB raw	final
Aluminum	200	30	anr							_
Antimony	5.0	2.39	anr							
Arsenic	10	3.4	anr							
Barium	200	.39	anr							
Beryllium	5.0	.36	anr	* .						1
Cadmium	5.0	. 33	anr							
Calcium	1000	19.5	anr							
Ciromium	10	637	anr							
Cobalt	50	.797	anr		e G		:			
Copper	25	.747	anr		er G					
Iron	300	32	anr		1					e e e
Lead	5.0	1.59	0.40	<5.0	0.1	<5.0	-1.4	<5.0	-O.BO	<5.0
Magnesium	5000	17.6	anr		3					
Manganese	15 .	.16	anr		3 6		:			
Molybdenum	50	.68	anr							
Nickel	40	1	anr		Š		: :			
Potassium	5000	28.2	anr		k B T					
Selenium	10	2	anr							
Silver	10	. 96	anr		4 8 9					
Sodium	5000	153	anr		j Ž					
Thallium	10	2.69	anr		i.		:			
Tin	50	2.2	enr						:	
Vanadium	50	.717	anr		i H					
Zinc	20	.83	anr							•

(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4960 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1001M1.ASC QC Limits: result < RDL

Date Analyzed: 10/01/99
Rum ID: MA1569

Methods: EPA 200.7, SW846 6010A Units: ug/l

nn Th: MA1569 Units: ug/

				_			Units: ug/l					
Metal	RDL	IDL	CCB raw	final	CCB raw	final	CCB raw	final	CCB raw	final		
Aluminum	200	30	anr									
Antimony	5.0	2.39	anr									
Arsenic	10	3.4	anr									
Barium	200	.39	anr									
Beryllium	5.0	.36	anr									
Cadmium	5.0	.33	anr									
Calcium	1000	19.5	anr					į.	:			
Chromium	10	. 637	anr				· ·					
Cobalt	50	. 797	anr		:							
Copper	25	. 747	anr		i.							
Iron	300	32	anr						٠.			
Lead	5.0	1.59	7.5	<100	4.0	<5.0B	1.8	<5.0B	6.0	<15		
Magnesium	5000	17.6	anr						-			
Manganese	15	.16	anr									
Molybdenum	50	. 68	anr		e.							
Nickel	40	1	anr		e v							
Potassium	5000	28.2	anr									
Selenium	10	2	anr									
Silver	10	. 96	anr		:							
Sodium	5000	153	anr									
Thallium	10	2.69	anr									
Tin	50	2.2	anr		3							
Vanadium	50	.717	anr						· ·			
Zinc	20	. 8 غ	anr			1. (2. %) 1. (3. %) 2. (3. %)						

(*) Outside of QC limits (anr) Analyte not requested

U90035

Login Number: F4960 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1001M1.ASC QC Limits, result < RDL

Date Analyzed: 10/01/99 Run ID: MA1569

Units: ug/l

Methods: EPA 200.7, SW846 6010A

	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,									
Metal	RDL	IDL	CCB	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	30	anr		:			:		
Antimony	5.0	2.39	anr							
Arsenic	10	3.4	anr							
Barium	200	.39	anr		4					en de la companya de La companya de la co
Beryllium	5.0	. 36	anr	e .				1. 4.		* ·
Cadmium	5.0	. 33	anr							
Calcium	1000	19.5	anr							
Chromium	10	. 637	anr						· .	
Cobalt	50	.797	anr		ļ.				.e	
Copper	32	. 747	anr						:	
Iron	300	32	anr						1	
Lead	5.0	1.59	2.4	<5.0B	12.0	∢15	2.8	<5.0	1.9	<5.0
Magnesium	5000	17.6	anr							
Manganese	15	.16	anr		Ŷ.		: 1			
Molybdenum	50	. 68	anr		44 6.1 6.2		:		As	
Nickel	40	1	anr							
Potassium	5000	28.2	anr) O			
Selenium	10	2	anr							
Silver	10	. 96	anr							
Sodium	5000	153	anr		\tag{\text{3}}				· ·	
Thallium	10	2.69	anı						À	
Tin	50	2.2	anr		Â		. * ! * !			
Vanadium	50	.717	anr		ai H					
Zinc	20	.83	anr	F. 1974					Č.	

^(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4960 Account: ITFAMONK - IT Corporation Project: ITFAMONR1597 - Bainbridge

File ID: IR1001M1.ASC QC Limits: result < RDL Date Analyzed: 10/01/99 Run ID: MA1569

Methods: EPA 200.7, SW846 6010A

Units: ug/l

Or tamits: F	esuic C R	.DL		Run	ID: MA1	569	Units: ug/l				
Metal	RDL	IDL	CCB	final	CCB	final	CCB raw	final			
Aluminum	200	30	anr					* .	· <u></u>		
Antimony	5.0	2.39	anr								
Arsenic	10	3.4	anr								
Barium	200	.39	anr								
Beryllium	5.0	.36	anr	4.5.							
Cadmium	5.0	.33	anr								
Calcium	1000	19.5	anr								
Chromium	10	. 637	anr								
Cobalt	50	.797	anr								
Cubber	25	. 747	anr								
Iron	300	32	anr								
Lead	5.0	1.59	0.12	<5.0	2.0	<5.0	-0.70	<5.0			
Magnesium	5000	17.6	anr								
Manganese	15	.16	anr								
Molybdenum	50	.68	anr		; ;						
Nickel	40	1	anr								
Potassium	5000	28.2	anr		:						
Selenium	10	2	anr								
Silver	10	. 96	anr								
Sodium	5000	153	anr		•						
Thallium	10	2.69	anr								
Tin	50	2.2	anr								
Vanadium	50	.717	anr						-		
Zinc	20	.83	anr								

(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4960 ACCOUNT: ITPAMONK - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: HG1004S1.HGD OC Limits: result < RDL Date Analyzed: 10/04/99

Methods: SW846 7471A

Run ID: MA1573 Units: ug/l

Metal	RDL	IDL	ICB raw	final ra		CCB raw	final	CCB raw	final
Mercury	1.0	.06	0.043	<1.0 0.	065 <1.0	0.021	<1.0	0	<1.0

(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4960 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1005M1.ASC QC Limits: result < RDL

Date Analyzed: 10/05/99 Run ID: MA1574

Methods: SW846 6010A Units: ug/l

Metal	RDL	IDL	ICB raw	final	CCB raw	final	CCB raw	final	CCB Taw	final
Aluminum	200	30	24.5	<200	25.6	<200	69.7	<200	16.5	<200
Antimony	60	2.39	6.0	<200	3.0	<200	-0.44	<200	2.6	<200
Arsenic	10	3.4	3.0	<500	1.4	<500	5.1	<500	1.5	<500
Barium	200	.39	1.2	<1000	1.1	<1000	1.7	<1000	0.60	<1000
Beryllium	5.0	.36	1.3	<5.0	1.2	<5.0	2.0	<5.0	1.1	<5.0
Cadmium	4.0	. 33	1.3	<50	1.3	<50	1.8	<50	0.34	<50
Calcium	5000	19.5	21.4	<5000	20.1	<5000	110	<5000	6.2	<5000
Chromium	10	.637	1.1	<50	1.5	<50	1.6	<50	Q.60	<50
Cobalt	50	. 797	1.3	<50	1.1	<50	1.7	<50	0.92	<50
Copper	25	.747	0.85	<25	0.54	<25	2.6	<25	1.8	<25
Iron	100	32	25.0	<100	26.2	<100	47.6	<100	15.7	<100
Lead	100	1.59	0.30	<500	0.060	<500	1.8	<500	0.84	<500
Magnesium	5000	17.6	20.3	<5000	18.1	<5000	78.3	<5000	11.8	<5000
Manganese	15	.16	1.1	<15	1.1	<15 ····	1.6	<15	0.46	<15
Molybdenum	50	.68	anr							
Nickel	40	1	0.90	<40	1.4	<40	2.5	<40	0.28	<40
Potassium	5000	28.2	18.4	<5000	14.2	<5000	22.1	<5000	14.5	<5000
Selenium	100	2	3.6	<500	0.70	<500	4.1	<500	0.49	<500
Silver	10	. 96	0.59	<50	0.92	<50	0.62	<50	0.74	<50
Sodium	5000	153	-110	<5000	-260	<5000	-92	<5000	-40	<5000
Thallium	10	2.69	4.4	<500	2.5	<500	5.6	<500	2.4	<500
Tin	50	2.2	anr	erijilwy Thelylyd	Ş		T r			
Vanadium	50	.717	1.6	<50	1.1	<50	1.9	<50	0.41	<50 [~]
Zinc	20	.83	1.6	⊲20	1.8	₹ 20	7.6	<20	0.11	<20

^(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4960 Account: ITPAMUNK - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1005M1.ASC

Date Analyzed: 10/05/99

Methods: SW846 6010A

OC Limits: result < RDL

Run ID: MA1574

Units: ug/l

^(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4960 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2111 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/02/99

10/02/99

,								20,02,0	,
Metal	M9189-1 Original	. DUP	RPD	QC Limits	M9189-1 Original	мѕ	Spikelot MPFLICP		QC Limits
Aluminum	9500	9520	0.2	0-20	9500	12700	3050	104.9	80-120
Antimony	0.39	0.90	79.1 (a)	0-20	0.39	55.1	105	52.0N	80-120
Arsenic	33.5	32.0	4.6	0-28	33.5	368	421	79.5	72-110
Barium	51.7	47.7	8.0	0-14	51.7	426	421	88.9	64-116
Beryllium	0.67	0.65	3.0	0-20	0.67	9.3	10	82.0	80-120
Cadmium	0.0	0.0	NC	0-16	0.0	8.6	10	81.7	64-120
Calcium	1220	1160	5.0	0-20	1220	3430	2630	84.0	80-120
Chromium	17.5	16.5	5.9	0-33	17.5	51.8	42.1	81.5	66-119
Cobalt	7.5	7.5	0.0	0-20	7.5	92.1	105	80.4	80-120
Copper	48.2	44.8	7.3	0-39	48.2	97.7	52.6	94.1	65-124
Iron	14300	14300	0.0	0-20	14300	17100	2840	98.6	80-120
Lead	14.5	13.7	5.7	0-44	14.5	99.5	105	80.8	60-127
Magnesium	3380 -	3380	0.0	0-20	3380	5680	2630	87.4	80-120
Manganese	209	202	3.4	0-20	209	286	105	73.2N	80-120
Molybdenum	anr								
Nickel	18.9	18.2	3.8	0-30	18.9	107	105	83.7	71-119
Potassium	1990	1900	4.6	0-20	1990	4190	2630	83.6	80-120
Selenium	0.0	0.0	NC	0-28	0.0	348	421	82.7	65-115
Silver	0.0	0.0	NC	0-21	0.0	6.6	10	62.7N	63-123
Sodium	141	143	1.4	0-20	141	2110	2630 .	74.9N	80-120
Thallium	0.0	0.0	NC	0-20	0.0	341	421	81.0	80-120
Tin	anr								
Vanadium	18.9	18.5	2.1	0-20	18.9	103	105	79.9N	80-120
Zinc	31.6	30.8	2.6	0-31	31.6	115	105	79.3	69-120

Associated samples MP2111: F4960-5, F4960-4R, F4960-5R

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

⁽N) Matrix Spike Rec. outside of QC limits

⁽anr) Analyte not requested

(a) RPD acceptable due to low duplicate and sample concentrations.

Login Number: F4960 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2111 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/02/99

Prep Date:				10/02/99	
Metal	M9189-1 Original	MŞD	Spikelot MPFLICP		QC Limits
Aluminum	9500	13700	3140	133.7N	80-120
Antimony	0.39	62.7	108	57.5N	80-120
Arsenic	33.5	403	433	85.3	72-110
Barium	51.7	469	433	96.3	64-116
Beryllium	0.67	10.2	10.8	88.0	80-120
Cadmium	0.0	9.6	11	88.6	64-120
Calcium	1220	3910	2710	99.3	80-120
Chromium	17.5	56.2	43.3	89.3	66-119
Cobalt	7.5	102	108	87.2	80-120
Copper	48.2	98.5	54.2	92.9	65-124
Iron	14300	17600	2920	112.8	80-120
Lead	14.5	108	108	86.3	60-127
Magnesium	3380 .	5940	2710	94.5	80-120
Manganese	209	320	108	102.5	80-120
Molybdenum					
Nickel	18.9	117	108	90.6	71-119
Potassium	1990	4310	2710	85.7	80-120
Selenium	0.0	381	433	87.9	65-115
Silver	0.0	7.3	11	67.4	63-123
Sodium	141	2310	2710	80.1	80-120
Thallium	0.0	380	433	87.7	80-120
Tin					-
Vanadium	18.9	113	108	86.9	80-120
Zinc	31.6	126	108	87.1	69-120

Associated samples MP2111: F4960-5, F4960-4R, F4960-5R

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

Login Number: F4960 ACCOUNT: ITPAMONK - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2112 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/01/99

10/01/99

Prep Date:			10/01/99				_	10/01/99	
Metal	F4960-4 Original	DUP	RPD	QC Limita	F4960-4 Original	MS	Spikelot MPFLICP		QC Limits
Aluminum	14200	9180	42.9*	0-20	14200	11900	3215.33	-69.7(b)	80-120
Antimony	0.0	0.61	200.0(a)	0-20	0.0	57.4	110.87	51.7N	80-120
Arsenic	2.5	31.5	170.8*	0-28	2.5	355	443.49	79.6	72-110
Barium	33.6	46.4	32.1 (a)	0-14	33.6	408	443.49	84.4	64-116
Beryllium	0.73	0.61	17.8	0-20	0.73	9.2	11.09	76.6N	80-120
Cadmium	0.0	0	NC	0-16	0.0	8.6	11.09	77.7	64-120
Calcium	241	1110	128.6*	0-20	241	3350	2771.63	112.3	80-120
Chromium	14.4	16.3	12.9	0-33	14.4	49.3	44.35	78.9	66-119
Cobalt	4.0	7.6	62.1 (a)	0-20	4.0	91.2	110.87	78.6N	80-120
Copper	6.7	76.2	167.6*	0-39	6.7	72.0	55.44	117.7	65-124
Iron	14100	13400	4.5	0-20	14100	15700	2993.58	56.2 (b)	80-120
Lead	33.6	10.6	103.8*	0-44	33.6	93.6	110.87	54.1N	60-127
Magnesium	1080	3150	97.8*	0-20	1080	5300	2771.83	152.2N	80-120
Manganese	57.2	191	107.8*	0-20	57.2	292	110.87	211.6N	80-120
Molybdenum	anr								
Nickel	6.6	17.4	90.4*	0-30	6.6	102	110.87	86.6	71-119
Potassium	498	1810	113.9*	0-20	498	3960	2771.83	124.9N	80-120
Selenium	0.0	0	NC	0-28	0.0	341	443.49	77.0	65-115
Silver	C	0.0	NC	0-21	0	6.8	11.09	60.9N	63-123
Sodium	164	218	28.3 (a)	0-20	164	2210	2771.83	73.9N	80-120
Thallium	0.00	0.00	NC	0-20	0.00	339	443.49	76.4N	80-120
Tin	anr								-
Vanadium	23.1	17.5	27.7*	0-20	23.1	99.5	110.87	68.9N	80-120
Zinc	20.1	28.3	34.0*	0-31	20.1	110	110.87	80.9	69-120

Associated samples MP2112: F4960-1, F4960-2, F4960-3, F4960-4, F4960-2R

Results < IDL are shown as zero for calculation purposes

U00051

^(*) Outside of QC limits

⁽N) Matrix Spike Rec. outside of QC limits

 ⁽a) RPD acceptable due to low duplicate and sample concentrations.
 (b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Login Number: F4960 Account: ITPAMONK - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2112 Matrix Type: SOLID Methods: SW846 6010A Units: mg/kg

Prep Date:

10/01/99

Frep Date.				10,01,00	
Metal	F4960-4 Original	MSD	Spikelot MPFLIÇP		QC Limits
Aluminum	14200	12800	2873.88	-46.6(a)	80-120
Antimony	0.0	52.7	99.1	53.2N	80-120
Arsenic	2.5	344	396.4	86.3	72-110
Barium	33.6	398	396.4	92.0	64-116
Beryllium	0.73	8.9	9.91	82.4	80-120
Cadmium	0.0	8.3	9.91	83.5	64-120
Calcium	241	3210	24//.40	122.4N	80-120
Chromium	14.4	49.9	39.64	89.7	66-119
Cobalt	4.0	88.8	99.1	85.6	80-120
Copper	6.7	133	49.55	255.8N	65-124
Iron	14100	17000	2675.68	110.5	80-120
Lead	33.6	576	99.1	547.7N	60-127
Magnesium	1080 .	5470	2477.48	177.0N	80-120
Manganese	57.2	294	99.1	239.1N	80-120
Molybdenum					
Nickel	6.6	102	99.1	96.1	71-119
Potassium	498	4060	2477.48	143.8N	80-120
Selenium	0.0	325	396.4	82.1	65-115
Silver	0	6.4	9.91	64.6	63-123
Sodium	164	2070	2477.48	76.8N	80-120
Thallium	0.00	319	396.4	80.4	80-120
Tin					-
Vanadium	23.1	98.8	99.1	76.3N	80-120
Zinc	20.1	112	99.1	92.3	69-120

Associated samples MP2112: F4960-1, F4960-2, F4960-3, F4960-4, F4960-2R

Results < IDL are shown as zero for calculation purposes

^(*) Outside of QC limits

⁽N) Matrix Spike Rec. outside of QC limits

⁽anr) Analyte not requested

⁽a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SERIAL DILUTION RESULTS SUMMARY

Login Number: F4960 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2112 Matrix Type: SOLID

Methods: SW846 6010A

Units: ug/l

10/01/99

Prep Date:			10/01/99	
Metal	F4960-4 Original	\$DL 1:5	RPD	QC Limito
Aluminum	127000	85700	32.3	0-10
Antimony	0.00	0.00	NC ·	0-10
Arsenic	22.1	315	1322.6(a	0-10
Barium	300	425	41.8	0-10
Beryllium	6.49	10.9	67.3 (a)	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	2120	11000	409.2	0-10
Chromium	128	150	17.1	0-10
Cobalt	35.8	74.6	108.4(a)	0-10
Copper	59.9	282	371.3	0-10
Iron	126000	127000	1.4	0-10
Lead	300	121	59.6	0-10
Magnesium	9650	29700	207.5	0-10
Manganese	510	1880	268.6	0-10
Molybdenum	anr			
Nickel	58.8	160	173.0	0-10
Potassium	4450	15900	256.8	0-10
Selenium	0.00	21.7		0-10
Silver	0.00	0.00	NC	0-10
Sodium	1470	2370	61.7 (a)	0-10
Thallium	0.00	0.00	NC	0-10
Tin	anr			-
Vanadium	206	164	20.4	0-10
Zinc	179	278	55.0	0-10

Associated samples MP2112: F4960-1, F4960-2, F4960-3, F4960-4, F4960-2R

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

(anr) Analyte not requested

⁽a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

SERIAL DILUTION RESULTS SUMMARY

Login Number: F4960 ACCOUNC: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2111 Matrix Type: SOLID

Methods: SW846 6010A

Units: ug/l

Prep Date:

10/02/99

Prep Date:			10/02/99		
Metal	M9189-1 Original	SDL 1:5	RPĎ	QC Limits	
Aluminum	86800	88900	2.4	0-10	
Antimony	3.60	0.00	100.0(a)	0-10	
Arsenic	306	310	1.4	0-10	
Barium	472	492	4.1	0-10	
Beryllium	6.10	13.4	120.2(a)	0-10	
Cadmium	0.00	0.00	NC	0-10	
Calcium	11200	11600	3.6	6-70	
Chromium	160	166	3.5	0-10	
Cobalt	68.6	71.9	4.8	0-10	
Copper	441	439	0.4	0-10	
Iron	131000	133000	1.7	0-10	
Lead	132	154	16.1*	0-10	
Magnesium	30900 .	31500	1.8	0-10	
Manganese	1910	1960	2.7	0-10	
Molybdenum	anr				
Nickel	173	180	3.8	0-10	
Potassium	18200	17200	5.4	0-10	
Selenium	0.00	24.0		0-10	
Silver	0.00	0.00	NC	0-10	
Sodium	1280	0.00	100.0(a)	0-10	
Thallium	0.00	0.00	NC	0-10	
Tin	anr				
Vanadium	173	177	2.3	0-10	
Zinc	289	310	7.2	0-10	

Associated samples MP2111: F4960-5, F4960-4R, F4960-5R

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

(anr) Analyte not requested

⁽a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

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OVERVIEW

Six (6) soil samples were analyzed for lead by EPA SW-846 Method 6010. No site-specific Quality Control samples were analyzed. Accutest, located in Orlando, FL, performed the analyses.

SUMMARY

These samples were analyzed successfully.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

- The continuing calibration blanks contained lead at greater than the instrument detection limit. Sample
 results with concentrations less than five (5) times the blank concentration are qualified as blank
 contaminated (B).
- The serial dilution sample had a relative percent difference greater than ten (10) percent. The lead result should be qualified estimated (J).

NOTES

There are no notes associated with this validation report.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification

(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation

(Can be used for both positive results and sample quantitation limits)

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be biased high. Actual value is expected to be lower
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

Other Codes

- Q = No analytical result.
- NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Data Summary Table

Site: FNTC - Bainbridge - Small Arms Ranges Confirmation Results

Lab: Accutest

Reviewer: Michael J. Lacy, Ph.D.

Date: 21 October 1999 Repor: Number: F4970

Sample I.D.	204-55	4C	204-42	3C	204-9	SC	204-16	4C	204-15	9C	204-38	1C	
Matrix	Soil		Şoil		Soil		Soil		Soil Soil		Soil		
Units	mg/k	g	mg/kg		mg/kg		mg/kg		mg/kg		mg/k	g	
Date Sampled	9/28/19	99	9/28/19	9/28/1999		9/28/1999 9/28/199		999	9/28/1999		9/28/1999		
Time Sampled	0930)	0933	0933		0936		0939		0942		0945	
% Moisture	15.3		12.3	3	14.8		17.8	3	14.7		15.9)	
pН	N/A		N/A	١	N/A		N/A		N/A		N/A		
Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		
	Result	VQ	Result	VQ	Result	VQ	Result	VQ	Result	VQ	Result	Ş	
Lead	35.2	JB	11.2	J₿	7.3	JB	7.1	JB	11.9	JB	61.5	J	

VQ - Validation Qualifier

ATTACHMENT C

Laboratory Reported Results



Page 1 of 1

Client Sample ID: 204-554C

Lab Sample ID: Matrix:

F4970-8 SO - Soil Date Sampled: 09/28/99

Date Received: 09/29/99

Percent Solids: 84.7

Project:

Analyte

Lead

Bainbridge

Metals Analysis

Result

35.2

RDL Units DF

mg/kg 1

11.8

Prep

Analyzed By

10/05/99 10/06/99 лк

SW846 6010A

Method

RDL = Reported Detection Limit

000030



Page 1 of 1

Client Sample ID: 204-164C

Lab Sample ID: Matrix:

F4970-11

Date Sampled: 09/28/99

SO - Soil

Date Received: 09/29/99

Project:

Bainbridge

Percent Solids: 87.7

Metals Analysis

Analyte Result RDL

Units DF Prep Analyzed By

Method

Lead

11.2 B

12.0

mg/kg 1

10/05/99 10/06/99 JK

SW846 6010A



Page 1 of 1

Client Sample ID: 204-96C

Lab Sample ID: F4970-10

Matrix:

SO - Soil

Date Sampled: 09/28/99

Date Received: 09/29/99

Percent Solids: 85.2

Project:

Lead

Bainbridge

Metals Analysis

Analyte

Result

11.9

7.3 B

RDL Units DF

mg/kg 1

Prep

Analyzed By

10/05/99 10/06/99 лк

SW846 6010A

Method

RDL = Reported Detection Limit

COULT



Page 1 of 1

Client Sample ID: 204-159C

Lab Sample ID: Matrix:

F4970-12 SO - Soil

Date Sampled: 09/28/99

Percent Solids: 82.2

Date Received: 09/29/99

Project:

Bainbridge

Metals Analysis

Result

RDL

Units DF

Prep Analyzed By Method

Lead

Analyte

7.1 B

12.3

mg/kg 1

10/05/99 10/06/99 јк

SW846 6010A



Page 1 of 1

Client Sample ID: 204-423C

Lab Sample ID:

F4970-9

Matrix:

SO - Soil

Date Sampled: 09/28/99

Date Received: 09/29/99

Percent Solids: 85.3

Project:

Bainbridge

Metals Analysis

Analyte

Result

RDL

Units DF Prep

Analyzed By

Method

Lead

11.9 11.2

mg/kg 1

10/05/99 10/06/99 лк

SW846 6010A



Page 1 of 1

Client Sample ID: 204-381C

Lab Sample ID: F4970-13

Matrix:

SO - Soil

Date Sampled: 09/28/99

Date Received: 09/29/99

Percent Solids: 84.1

Project:

Analyte

Bainbridge

Metals Analysis

Result

RDL Units DF

Prep

Analyzed By

Lead

61.5

11.5 mg/kg 1 10/05/99 10/06/99 лк

SW846 6010A

Method

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation

"TERNATIONAL :HNOLOGY
URPORATION

ANALYSIS REPUEST AND CHAIN OF CUST DY RECORD*

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Project Mana	nger4 C. Stearn	- ≤ Proje	ect Contact	t/Phone	12 7	7-425-2700 12 W. II. 2000 378-3450 Final 15 Treafer Heport to	10 Carry Stear	, , , , , , , , , , , , , , , , , , ,
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Required Report C	Date 11 3 days	·	DNE	CONT	AINER	PER LINE	Monroeville	, PA 15146
Sample ¹⁴ Number	Sample ¹⁵ Description/Type	Date/Time 16 Collected	Container ¹⁷ Type	Sample ¹⁸ Volume	p _{re-} 19 servative	Requested Testing ²⁰ Program	Condition on ²¹ Receipt	Disposal ²² Record No.
404-PIA	CompSpt Suil Blaggor Pile 1A	4/28/99	1-803	Buz	9°C	TCLP Lead 1311/6010	F49701	MS/MSD
404-PZA	Composit Soil Bldg 404 Pile 2A	9/22/99					-2	
404-P3A	Comp Spt Soil Bild 404 Pile 3A	9/28/99					-3	
404 - P5A	Bldg 404 Pile 5A	9/28/99					-4	
404-PGA	Comp Spt Soil BIdg 404 PIGGA	9/28/99					2	<u> </u>
204-P8A	Comp 5pt Svil 13/14 204 Pile BA	9/28/99					-6	<u> </u>
204-PIA	Comp Spt Soil Bldg 204 Pile IA	9/28/99		<u>'</u>	<u>'</u>	' <u>'</u>		
				<u>/</u>				
Special Instruction	ns: 23 &-mail	results to	Doroth	y Smal	<u> </u>		Ca	Sed LIC
Possible Hazard I Non-hazard 🔟 F	dentification: 24 lammable 🔟 Skin Irri	Lead tant 」 Poi	son B 🔟	Unknow	n '4 1	Sample Disposal: ²⁵ Return to Client Disp	osal by Lab 🔀 🛚 Archiv	e (mos.)
Turnaround Time	¢و ` ع بزد	73	QC I.	C Level: ²	m XI	Project Specific (specify):	Namy NFESC Ce	ual C
1. Relinquished by (Signature/Affiliation)	28 Dick Trente Pick Tresto	Dat			1. Rece (Signature/	eived by 28 abby 1/54	Date:	4.28.87
2. Relinquished by (Signature/Affiliation)		Dat Tim	-		2. Rece	eived by	Date: Time	•
3. Relinquished by (Signature/Affiliation)		Dat Tim			3. Rece (Signature/		Date: Time:	
Comments: 29	. 1	ick Treat	fer					
Fax	-/ / / ·	410-378		_				
								MCA 3/15/3

	International Technology Corporation
:Project i	Name Bainbridge

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.30 _ 9865 Page 2 of 2

MCA 3/15/91

Project No. 798939

Samples Shipment Date 9/27/99

			ONE	CONTA	INER	PER LINE		
Sample 14 Number	Semple 15 Description/Type	Date/Time 16 Collected	Container 17 Type	Sampie 18 Volume	Pre-19 servativo	Requested Testing 20 Program	Condition on 21 Receipt	Disposal 22 Record No.
04-5540	Comp 3pt Suil Bid 204 Grid P2	9/28/99	1-803	~ 203	402	Total Lead	F492-8	
04-423C	Coren Zort Scil	9128/99		~403			- FOR	LAB
04-96C	(- Z - Z - S - 1	9/28/99		603				DIMLY
04-164C		9/28/99		603			(1 Men Case Head	MSMSD
04-159C	Composit Suil Bldg 204 Grid PG	9/28/99		403			14	
04-381C	Comp 3pt Suil Bldg 204 Gnd P7	9/28/99		~ 202			[75	<u> </u>
	11 of the above s	amples/ex	tracts (2	04-55	10 thron	gh 204-381C)	FOR	LAB
	urther analys							CIMILY
							C C P	
	:					appen (1/50)	San San San	Sall II VIII Hera M
						929.99	FOR	LAB
						100		OMLY
						Codeville		
								LAB
			 					OMLY
		 	 	<u> </u>				

Accutest Laboratories Southeast Case Narrative

Job (SDG) No.: F4970	_	
Samples: 1-13		
Analysis Performed:		
1) Sample Receipt Conformance / Non-Confo	rmance Summary	
Custody Seals on Coolers?	Yes	No ()
Custody Seals in Tact?	Yes	No () .
Chain of Custody Sealed in Plastic?	Yell)	No ()
Chain of Custody Filled out Properly?	Yes (4)	No ()
Enough ice and Packing material?	YON)	No ()
All Bottles Sealed?	Yes (V)	No ()
Any Bottles Broken?	Yes ()	No (3)
Labels in good condition?	Yes	No ()
Labels agree with chain of custody?	You()	No ()
Correct Containers Used?	rei ()	No ()
Preserved Properly?	Your)	No ()
Sufficient Sample?	1500(1)	No ()
Comments:		

Accutest Laboratories Southeast Case Narrative

3) Metals Conformance / Non-conformance Summary	/	
Blank level below reporting limits?	Yes (No ()
If no, list analytes above reporting limits: <u>MP2169, MP212</u>		
Spike blank (LCS) data within acceptable Limits?	Yes W	No ()
If no, list analytes outside of acceptable limits. Refer to QC summary for ac MP2109; 218		
Matrix spike data within acceptable limits?	Yes (v)	No ()
If no, list analytes outside of acceptable limits. Refer to QC summary for ac		
Matrix duplicate data within acceptable limits?	Yes (1)	No ()
If no, list analytes outside of acceptable limits. Refer to QC summary for ac		
Samples prepared and analyzed within holding time?	Yes (1)	No ()
If holding times were not met, list analytes where holding times were excee	ded and explain:	
All analytical criteria met (calibration, CCV, ICV, CCB, etc.)?	You	No ()
If not met, list effected samples and analyses: MA 1569 MA 1576		
Comments:		

Login Number: F4970 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1006M1.ASC QC Limits: result < RDL Date Analyzed: 10/06/99 Run ID: MAI5/6

Methods: SW846 6010A

un ID: MAI5/6 Units: ug/l

			ICB		ICB		CCB		CCB	·
Metal	RDL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	30				Ξ.				
Antimony	5.0	2.39						· .	÷	* * *
Arsenic	10	3.4		٠	•					
Barium	200	.39				· · · · · · · · · · · · · · · · · · ·				
Beryllium	5.0	. 36							•	
Cadmium	5.0	.33								
Calcium	1000	19.5				1.50				
Chromium	10	. 637		71113	: :					
Cobalt	50	. 797		###.	: :				•	
Copper	25	.747			::					
Iron	300	32) J		i L			
Lead	5.0	1.59		+ 4,14 ± 4	1.9	<5.0B	2.7	<5.0B	3.9	<5.0B
Magnesium	5000	17.6					1			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Manganese	15	. 16							i. Li	
Molybdenum	50	. 68					d S	, 4,4 , 134		Tendron Services
Nickel	40	1					대 조 및		`. 	
Potassium	5000	28.2					id He			
Selenium	10	2			n. 87 38		1 4 4		: . E.	
Silver	10	. 96			 b					
Sodium	5000	153			ri C			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Thallium	10	2.69			t. 31. 34.					
Tin	50	2.03					A A			
Vanadium	50	.717					: } 		:	
					:1		\$	1 Am		
Zinc	20	. 83				1 1 1 1 1 1 1 1 1 1 1 1		- 1		200

(*) Outside of QC limits (anr) Analyte not requested

Login Number, F4970 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1006M1.ASC QC Limits: result < RDL

Date Analyzed: 10/06/99 Run ID: MA1576

Methods: SW846 6010A Units: ug/l

Metal	RDL	IDL	CCB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	30	anr							
Antimony	5.0	2.39	anr	٠.						
Arsenic	10	3.4	anr			٠.				
Barium	200	.39	anr							
Beryllium	5.0	.36	anr							
Cadmium	5.0	-33	anr			i ja			•	
Calcium	1000	19.5	anr							
Chromium	10	.637	anr							
Cobalt	50	.797	anr					W		
Copper	25	.747	anr		: !.					
Iron	300	32	anr		. . 		:	- 411		
Lead	5.0	1.59	1.8	<5.0B	1.9	<5.08			2.9	<5.0
Magnesium	5000	17.6	anr							
Manganese	15	. 16	anr					undin Salah	i L	
Molybdenum	50	.68	anr						: (
Nickel	40	1	anr				ř		:	
Potassium	5000	28.2	anr						-	
Selenium	10	2	anr				:: ::			시 전 제공보다 공급 전 경구
Silver	10	96	anr						:	
Sodium	5000	153	anr		e e				:	
Thallium	10	2.69	anr		* :					
Tin	50	2.2	anr		B			. F.	:	
Vanadium	50	.717	anr				:			
Zinc	20	. 83	anr				:			

(*) Outside of QC limits (anr) Analyte not requested

Legin Number: F4970 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1006M1.ASC QC Limits: result < RDL

Date Analyzed: 10/06/99 Run ID: MAI576

Methods: SW846 6010A units: ug/1

Metal	RDL	IDL	CCB raw	final	CCB raw	final	
Aluminum	200	30	anr	N .		19.0	
Antimony	5.0	2.39	anr				
Arsenic	10	3.4	anr				
Barium	200	. 39	anr			:	
Beryllium	5.0	.36	anr				
Cadmium	5.0	. 33	anr				
Calcium	1000	19.5	anr				
Chromium	10	. 637	anr				
Cobalt	50	.797	anr				
Copper	25	.747	anr				
					:		
Iron	300	32	anr				
T.ead	5.0	1.59	5.9	<15	3.8	<5.0B	
Magnesium	5000	17.6	anr				
Manganese	15	.16	anr				
Molybdenum	50	.68	anr		1		
Nickel	40	1	anr				
Potassium	5000	28.2	anr				
Selenium	10	2	anr				
Cilver	10	. 96	anr				
Sodium	5000	153	anr		<u>.</u>		
Thallium	10	2.69	anr		:		
Tin	50	2.2	anr				
Vanadium	50	.717	anr		i E		
Zinc	20	. 83	anr				
				* * ****			

^(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4970 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1001M1.ASC QC Limits: result < RDL

Date Analyzed: 10/01/99 kun ip: MAisey

Methods: EPA 200.7, SW846 6010A Units: ug/l

							VIII 00 .			
Metal	RDL	IDL	CCB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	30	anr	eur,						
Antimony	5.0	2.39	anr							
Arsenic	10	3.4	anr					* 1 * 1		
Barium	200	.39	anr			v *				
Beryllium	5.0	.36	anr							
Cadmium	5.0	. 33	anr							
Calcium	1000	19.5	anr		· ·					
Chromium	10	.637	anr				i.			
Cobalt	50	.797	anr		d S S					
Copper	25	. /4 /	anr			n 10 Near ne sinen Derivita			:	
Iron	300	32	anr							
Lead	5.0	1.59	7.5	<100	4.0	<5.0B	1.8	<5.0B	6.0	<15
Magnesium	5000	17.6	anr			v (196) v 1989				
Manganese	15	.16	anr				i E			
Molybáenum	50	. 68	anr							
Nickel	40	1	anr							
Potassium	5000	28.2	anr				i C			
Selenium	10	2	anr				6 6 1		:	
Silver	10	. 96	anr							
Şodium	5000	153	anr							
Thallium	10	2.69	anr							
Tin	50	2.2	anr				: :			
Vanadium	50	.717	anr) ([4] 		•
Zinc	20	.83	anr			A.S				

^(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4270 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1001M1.ASC QC Limits: result < RDL Date Analyzed: 10/01/99 Run ID: MA1569 Methods: EPA 200.7, SW846 6010A Units: ug/l

OC TIWITS: L	esuit < K	DL		Run	ID: MAI	569	Units:			
Metal	RDL	IDL	CCB raw	final	CCB	final	CCB	Einal	CCB raw	final
Aluminum	200	30	anr							
Antimony	5.0	2.39	anr							
Arsenic	10	3.4	anr							
Barium	200	. 39	anr							
Beryllium	5.0	.36	anr		<u> </u>					
Cadmium	5.0	.33	anr							
Calcium	1000	19.5	anr			1 fu) 1 fu)				4
Chromium	10	. 637	anr							
Cobalt	50	.797	anr		: ¹ : ¹		ļ .			
Copper	25	.747	anr				y			
Iron	300	32	anr							
Lead	5.0	1.59	2.4	<5.0B	12.0	<15	2.8	<5.0	1.9	<5.0
Magnesium	5000	17.6	anr				-		:	
Manganese	15	.16	anr							1. 1. 1. 1. 1.
Molybdenum	50	.68	anr						:	
Nickel	40	1	anr		d A			. 19 Sec - 11 Sec - 14 Sec		
Potassium	5000	28.2	anr							
Selenium	10	2	anr						· }	
ilver	10	. 96	anr				· :			
Sodium	5000	153	anr		X.				:	
Thallium	10	2.69	anr							
Tin	50	2.2	anr				:		s	
Vanadium	50	.717	anr		e i i					-
Zinc	20	. 83	anr				:			
				1 1 1 1 1 1 1 1 1						

^(*) Outside of QC limits (anr) Analyte not requested

Page 3

1 3 Fam. 1

BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: F4970 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2121

Methods: SW846 6010A Unics: mg/kg

matrix Type: SOLID

Prep Date:

10/05/99

Trop bace.				20,03,3,
Metal	RDL	IDL	MB raw	final
Aluminum	20.0	3	anr	***
Antimony	6.0	.24	anr	i v rit
Arsenic	1.0	. 34	anr	
Barium	20.0	. 04	anr	
Beryllium	0.50	.04	anr	
Cadmium	0.40	- 03	anr	
Calcium	500	2	anr	
Chromium	1.0	. 06	anr	
Cobalt	5.0	.08	anr	
Copper	2.5	.07	anr	
Iron	10.0	3.2	anr	
Lead	10.0	.16	1.4	<10.0
Magnesium	500	1.8	anr	
Manganese	1.5	. 02	anr	
Molybdenum	5.0	.07	anr	
Nickel	4.0	. 1	anr	
Potassium	500	2.8	anr	
Selenium	10.0	. 2	anr	
Silver	1.0	.1	anr	
Sodium	500	15.3	anr	
Thallium	1.0	. 27	anr	
Tin	5.0	.22	anr	
Vanadium	5.0	. 07	anr	
Zinc	4.0	. 08	anr	

Associated samples MP2121: F4970-8, F4970-9, F4970-10, F4970-11, F4970-12, F4970-13

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (anr) Analyte not requested

.

OVERVIEW

Ten (10) soil samples were analyzed for lead by EPA SW-846 Method 6010. No site-specific Quality Control samples were analyzed. Accutest, located in Orlando, FL, performed the analyses.

SUMMARY

These samples were analyzed successfully.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

- The continuing calibration blanks contained lead at greater than the instrument detection limit. Sample
 results with concentrations less than five (5) times the blank concentration are qualified as blank
 contaminated (B).
- Matrix spike had a high recovery of lead. Lead results for these samples must be qualified biased high (K).
- The serial dilution sample had a relative percent difference greater than ten (10) percent. The lead result should be qualified estimated (J).

NOTES

- The low calibration standard for lead was recovered low, although the regular concentration standard was acceptably recovered. Therefore, the data were not qualified.
- The laboratory duplicate had a relative percent difference within the required 20 percent.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification

(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation

(Can be used for both positive results and sample quantitation limits)

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

Other Codes

- Q = No analytical result.
- NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Data Summary Table

Site: FNTC - Bainbridge - Small Arms Ranges Confirmation Results

Lab: Accutest

Reviewer: Michael J. Lacy, Ph.D.

Date: 21 October 1999 Report Number: F4975

Sample I.D.	204-548C	204-559C	204-442C	204-154C	204-484C	204-136C	204-390C	204-515C	204-400C	204-299C
Matrix	Soil									
Units	mg/kg									
Date Sampled	9/28/1999	9/28/1999	9/28/1999	9/28/1999	9/28/1999	9/28/1999	9/28/1999	9/28/1999	9/28/1999	9/28/1999
Time Sampled	1103	1106	1109	1112	1424	1427	1433	1436	1439	1448
% Moisture	17.2	15.2	18.0	19.5	15.8	13.6	15.1	18.9	19.8	16.6
pН	N/A									
Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Result VQ									
Lead	44.8 JBK	9.9 JBK	24.4 JBK	172 JBK	21.0 JBK	134 JK	113 JK	22.8 JBK	23.3 JBK	14.3 JBK

VQ - Validation Qualifier

ATTACHMENT C

Laboratory Reported Results



Page 1 of 1

Client Sample ID: 204-548C

Lab Sample ID: Matrix:

F4975-1 SO - Soil Date Sampled: 09/28/99

Date Received: 09/30/99 Percent Solids: 82.8

Project:

Bainbridge

Metals Analysis

Result RDL Units DF Prep Analyzed By Method Analyte

Lead 44.8 11.0 mg/kg 1 10/07/99 10/07/99 лк SW846 6010A



Page 1 of 1

Client Sample ID: 204-559C Lab Sample ID: F4975-2

Matrix:

SO - Soil

Date Sampled: 09/28/99

Date Received: 09/30/99

Project:

Bainbridge

Percent Solids: 84.8

Metals Analysis

RDL Analyte Result Units DF Ртер Analyzed By Method

Lead 9.9 B 11.6 mg/kg 1 10/07/99 10/07/99 јк SW846 6010A



Page 1 of 1

Client Sample ID: 204-442C Lab Sample ID: F4975-3

Matrix:

SO - Soil

Date Sampled: 09/28/99

Percent Solids: 82.0

Date Received: 09/30/99

Project:

Lead

Bainbridge

Metals Analysis

Analyte Result

24.4

RDL

mg/kg 1

12.3

Units DF Prep

10/07/99 10/07/99 јк

Analyzed By

SW846 6010A

Method

RDL = Reported Detection Limit



Page 1 of 1

Client Sample ID: 204-154C

Lab Sample ID: Matrix:

F4975-4

Date Sampled: 09/28/99

SO - Soil

Date Received: 09/30/99

Percent Solids: 80.5

Project:

Bainbridge

Metals Analysis

Result RDL Units DF Prep Analyzed By Method Analyte

Lead 17.2 11.7 mg/kg 1 10/07/99 10/07/99 JK SW846 6010A



Page 1 of 1

Client Sample ID: 204-484C Lab Sample ID: F4975-5

SO - Soil

Date Sampled: 09/28/99 Date Received: 09/30/99

Percent Solids: 84.2

Project:

Matrix:

Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

Lead 21.0 12.5 mg/kg 1 10/07/99 10/07/99 JK SW846 6010A



Page 1 of 1

Client Sample ID: 204-136C

Lab Sample ID: Matrix:

F4975-6 SO - Soil Date Sampled: 09/28/99

Date Received: 09/30/99 Percent Solids: 86.4

Project:

Analyte

Bainbridge

Metals Analysis

RDL Prep Analyzed By Method Result Units DF

10/07/99 10/07/99 лк Lead 134 12.3 mg/kg 1 SW846 6010A



Page 1 of 1

Client Sample ID: 204-390C Lab Sample ID:

F4975-7 SO - Soil Date Sampled: 09/28/99 Date Received: 09/30/99

Percent Solids: 84.9

Project:

Matrix:

Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

113 11.0 mg/kg 1 10/07/99 10/07/99 лк Lead SW846 6010A



Page 1 of 1

Client Sample ID: 204-515C Lab Sample ID:

F4975-8

Matrix:

SO - Soil

Date Sampled: 09/28/99

Date Received: 09/30/99

Percent Solids: 81.1

Project:

Bainbridge

Metals Analysis

Analyzed By Analyte Result RDL Units DF Prep Method

Lead 22.8 11.7 mg/kg 1 10/07/99 10/07/99 JK SW846 6010A



Page 1 of 1

Client Sample ID: 204-400C Lab Sample ID:

F4975-9

Matrix:

SO - Soil

Date Sampled: 09/28/99

Date Received: 09/30/99

Project:

Analyte

Bainbridge

Percent Solids: 80.2

Metals Analysis

Result

RDL Units DF

Prep

Analyzed By

Method

Lead

23.3

12.5 mg/kg 1 10/07/99 10/07/99 JK

SW846 6010A



Page 1 of 1

Client Sample ID: 204-299C

Lab Sample ID: Matrix:

F4975-10 SO - Soil Date Sampled: 09/28/99

Date Received: 09/30/99
Percent Solids: 83.4

Project:

Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

Lead 14.3 11.6 mg/kg 1 10/07/99 10/07/99 JK SW846 6010A

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation

CT.".	NTERNATIONAL
	TECHNOLOGY
تحت	CORPORATION

ANALYSIS L_QUEST AND CHAIN OF CUSTODY RECORD*

Reference Document	ు. 559861
Page 1 of <u>4</u>	

CORPORA	IION					-		r 🕽
	No. 1 Builbridge 7		•		_		0:5 IT corp 2790 Mosside	•ન
Sample Team Memb	ers 2 Treater / K-1.	nger	Lab D	estination	8 Acc	u fest Lab	Monroeville,	
Profit Center	No. ³		La	b Contact	9 Gud	27-425-6700) (a. Williams		• •
	ager4 2. Stearns	s Proje	ect Conta	ct/Phone	12 Dick	2-378-3450 Fruel CTreater Report to	Dorothy Sma Carry Steam	-12.5
-	No. 6 798939-0					× 792502225554	IT COMP	
Required Report D			ONE	CONT	AINER	PER LINE	1790 Mossii Monroeville	
Sample ¹⁴ Number	Sample ¹⁵ Description/Type	Date/Time ¹⁶ Collected				Requested Testing 20	Condition on ²¹ Receipt	Disposal ²² Record No.
204-548C	Comp 3pt Su. 1 Bldg 204 Grid P26	9/28/99	1-803	4-3	40	Total Lead 6010	F4974	
204-559C	Comp 3pt Soil Bld; 204 Grid P27	9/28/99		~ Zo3			2/975_Z	
204-442C	Comp 3pt Soil 13149204 Gnidp28	9/28/99		2603			-3	MS/MSD
204-154C		9/28/99		~ 403			-4	
204-484C	Composet Suil Bldy 204 Gral P9	9/28/49		~403			5	
204-1360	Boly 204 Grid Pio	9/28/99	<u> </u>	~403			-6	
204-390C	Comp 3pt Soil Bldg 204 Gnd P12			~ 203			>	
204-515C	Comp 3pt Suil Bldg 204 Grid P13	4/18/94 1436	(N 403	1		-8	
Special Instruction	ons: 23 E-mail res	ults to	Do roth	Ly Sma	L1			Cooler"42
Possible Hazard		ead		Unknow		Sample Disposal: ²⁵ Return to Client 1 Disp	oosal by Lab 🄏 🛚 Archive	e (mos.
Turnaround Time Normal J Rush	Required: ²⁶	ays		C Level: 2	27 . <u>/</u>_1	Project Specific (specify):	Navy NFESC L	ivel C
1. Relinquished by (Signature/Affiliation)	28 Die Treater	Date To Time		130		eived by 28 or n	Date: Time:	4.50.49 11(0)
2. ReInquished by (Signature/Affiliation)		Dat Tim	e:		2. Rece (Signature/		Date: Time:	
3. Relinquished by (Signature/Affiliation)	1	Dat Tin			3. Rece	eived by (Affiliation)	Date: Time:	
Comments: 29		Dick T			<u> </u>			
Fa	x results to	410-3	78-32	232				·

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.30	559867
Page 2 of 3-	

· Project Name Bainbridge

Project No. 798939

Samples Shipment Date 9/29/99

Number Description/Type Collected Type Volume servative Program Receipt Record No. 204-400C Billio 204 Grid P14 1439 1-803 403 4C Total Lead FLOT-9 6010 FLOT-9				ONE	CONT	IINER	PER LINE		
204-900 BNB 204 Grad P14 204-2990 BNB 204 Grad P17 203 1 1 - FOR LAB USE ONLY FOR LAB USE ONLY	Sample 14 Number	Description/Type	Collected	Container ¹⁷ Type	Sample18 Volume	Pro-19 servativo	Requested Testing 20 Program	Condition on 21 Receipt	Disposal 22 Record No.
1	204-400C	Comp 3pt Soil	9/28/49		402		Total Lead		,
USE ONLY FOR LAB USE ONLY (by Nus) FOR LAB USE ONLY	204 - 2990	Conco 3 pt Soil Bldg 204 Grid P17	9/28/99	l	203	· (l	-/o FOP	LAB
(by Nus) FOR LAB (by Nus) FOR LAB 9309 USE ONLY (lid) FOR LAB USE ONLY		·		·				USE	DIMLY
(Iby Nusa) FOR LAB (IC) FOR LAB (IC) USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY JSE ONLY									
(Iby Nusa) FOR LAB (IC) FOR LAB (IC) USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY JSE ONLY									TOROLL SE
9309 USE ONLY Work Wi USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY	 								SUNIL I
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OR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY FOR LAB USE ONLY USE ONLY				• • • • • • • • • • • • • • • • • • • •				USE	DNLY
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FOR LAR USE ONLY FOR LAR USE ONLY USE ONLY							We 141		
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Accutest Laboratories Southeast <u>Case Narrative</u>

Job (SDG) No.: F4975	_	
Samples: - 1 \cap		
Analysis Performed:		
1) Sample Receipt Conformance / Non-Confo	ormance Summary	
Custody Seals on Coolers?	Yes (1)	No ()
Custody Scals in Tact?	Yes ()	No () ,
Chain of Custody Sealed in Plastic?	Ye4)	No ()
Chain of Custody Filled out Properly?	Yes (4)	No ()
Enough ice and Packing material?	You	No ()
All Bottles Sealed?	Yes (V)	No ()
Any Bottles Broken?	Yes ()	NO (1)
Labels in good condition?	Yes (1)	No ()
Labels agree with chain of custody?	Yes (1)	No ()
Correct Containers Used?	Yed)	No ()
Preserved Properly?	YON	No ()
Sufficient Sample?	Yes (4)	No ()
Comments:		

Accutest Laboratories Southeast Case Narrative

3) Metals Conformance / Non-conformance Summary		
Blank level below reporting limits? MP2126, MP2127	Yes (2)	No ()
If no, list analytes above reporting limits:		
Spike blank (LCS) data within acceptable Limits? MP 2127, MP2 If no, list analytes outside of acceptable limits. Refer to QC summary for ad-		No ()
Matrix spike data within acceptable limits?	Yes ()	•
If no, list analytes outside of acceptable limits. Refer to QC summary for ad M3 90 vec 128.2 acceptance criteria 124%	ditional Comments:	<u>rb</u>
Matrix duplicate data within acceptable limits?	Yes (V)	No ()
If no, list analytes outside of acceptable limits. Refer to QC summary for ad	ditional Comments:	
Samples prepared and analyzed within holding time?	Y (5 (V)	No ()
If holding times were not met, list analytes where holding times were exceed	led and explain;	
	Yes (V)	N
All analytical criteria met (calibration, CCV, ICV, CCB, etc.)? If not met, list effected samples and analytes:	•	No ()
Comments:		

Login Number: F4975 Account: TTPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1007M1.ASC QC Limits: result < RDL Date Analyzed: 10/07/99 Run ID: MA1578

Methods: SW846 6010A Units: ug/l

Metal	RDL	IDL	ICB raw	final	CCB	final	CCB raw	final	CCB raw	final
Aluminum	200	30	anr							
Antimony	60	2.39	anr					*:		
Arsenic	10	3.4	anr			'				
Barium	200	.39	anr							
Beryllium	5.0	.36	anr							
Cadmium	4.0	.33	anr		1			1		
Calcium	5000	19.5	anr							
Chromium	10	.637	qur	in girth History						
Cobalt	50	. 797	anr							
Copper	25	. 747	anr		į š					
Iron	100	32	anr							
Lead	100	1.59	0.20	<100	1.8	<100B	1.4	<100		
Magnesium	5000	17.6	anr		•					
Manganese	15	16	anr							
Molybdenum	50	. 68	anr							
Nickel	40	1	anr		ři P					
Potassium	5000	28.2	anr							
Selenium	100	2	anr						ar İ	
Silver	10	. 96	anr		S				A S	
Sodium	5000	153	anr		¥					
Thallium	10	2.69	anr	paragraph Talah	: 6: 1.		: :		** .*	
Tin	50	2.2	anr		i i					
Vanadium	50	.717	anr		9 3		3			- 13 변화. - 12 년 13
Zinc	20	. 83	anr	* * * * * * *						

^(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4975
Account: ITTAMONM IT Corporation
Project: ITPAMONR1597 - Bainbridge

File ID: IR1007M1.ASC

Date Analyzed: 10/07/99 Methods: SW846 6010A Run ID: MA1578 Units: ug/l

QC Limits: result < RDL

					-				-	
Metal	RDL	IDL	CCB raw	final	raw	final	CCB raw	final	CCB raw	final
Aluminum	200	30	anr	1,3						1
Antimony	60	2.39	anr		:					
Arsenic	10	3.4	anr							
Barium	200	. 39	anr							
Beryllium	5.0	. 36	anr							
Cadmium	4.0	.33	anr		1		:			
Calcium	5000	19.5	anr	15.5						
Chromium	10	.637	anr							
Cobalt	50	.797	anr							
Copper	25	.747	anr							
Iron	100	32	anr		6. 8.					
Lead	100	1.59	9.8	<500	13.0	<100B	5.3	<100B	6.7	<100B
Magnesium	5000	17.6	anr							
Manganese	15	.16	anr							
Molybdenum	50	.68	anr		75. 4. ₃ 				:	
Nickel	40	1	anr	n i - suine stierje. Turis is spiele Stieren St. 1988			u () ()			
Potassium	5000	28.2	anr				j. H		:	
Selenium	100	2	anr						is Is	
Silver	10	. 96	anr		H H				Á	
Sodium	5000	153	anr							
Thallium	10	2.69	anr							
Tin	50	2.2	anr		À		i.			
Vanadium	50	.717	anr						.:	-
Zinc	20	.83	anr			1.5	17			

(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4975 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1007M1.ASC

Date Analyzed: 10/07/99 Run ID: MA1578

Methods: SW846 6010A Units: ug/l

QC Limits: result < RDL

QC LIMITCS: I	esuit (N				ID: FMI.	770	Unites.	ug/ I	
Metal	RDL	IDL	CCB raw	final	CCB	final	CCB raw	final	
Aluminum	200	30	anr						
Antimony	60	2.39	anr			2.1		•	
Arsenic	10	3.4	anr						
Barium	200	.39	anr	1945年 1947年			:		
Beryllium	5.0	.36	anr						
Cadmium	4.0	.33	anr						
Calcium	5000	19.5	anr						
Chromium	10	. 637	anr						
Cobalt	50	.797	anr						
Copper	25	.747	anr						
Iron	100	32	anr						
Lead	100	1.59	6.8	<100B	14.6	<500	18.8	<500	
Magnesium	5000	17.6	anr					in divini National States	
Manganese	15 .	.16	anr			e de Maria	T.		
Molybdenum	50	. 68	anr		3.				
Nickel	40	1	anr				i Ž		
Potassium	5000	28.2	anr						
Selenium	100	2	anr						
Silver	10	. 96	anr						
Sodium	5000	153	anr				1		
Thallium	10	2.69	anr		A. A.				
Tin	50	4.2	anr				:		
Vanadium	50	.717	anr		ŧi.				•

(*) Outside of QC limits (anr) Analyte not requested

Zinc

20

.83

anr

BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: F4975 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2126 Matrix Type: SOLID

Methods: \$W846 6010A Units: mg/kg

Prep Date:				10/07/99
metal	RDL	IDL	raw MB	final
Aluminum	20.0	3	anr	
Antimony	6.0	.24	anr	
Arsenic	1.0	- 34	anr	
Barium	20.0	.04	anr	
Beryllium	0.50	.04	anr	
Cadmium	0.40	. 03	anr	
Calcium	500	2	anr	
Chromium	1.0	.06	anr	
Cohalt	5.0	.08	anr	
Copper	2.5	.07	anr	
Iron	10.0	3.2	anr	
Lead	10.0	.16	6.9	<10.0
Magnesium	500	. 1.8	anr	
Manganese	1.5	. 02	anr	
Molybdenum	5.0	.07	anr	
Nickel	4.0	-1	anr	
Potassium	500	2.8	anr	
Selenium	10.0	. 2	anr	
Silver	1.0	.1	anr	
Sodium	500	15.3	anr	
Thallium	1.0	.27	anr	
Tin	5.0	.22	anr	
Vanadium	5.0	.07	anr	
Zinc	4.0	.08	anr	

Associated samples MP2126: F4975-1, F4975-2, F4975-3

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

(anr) Analyte not requested

BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: F4975 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2127 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/07/99

Prep Date:				10/07/99
Metal	RDL	IDL	MB raw	final
Aluminum	20.0	3	anr	
Antimony	6.0	.24	anr	
Arsenic	1.0	.34	anr	
Barium	20.0	. 04	anr	
Beryllium	0.50	.04	anr	
Cadmium	0.40	.03	anr	
Calcium	500	2	anr	544 - 145
Chromium	1.0	. 06	anr	
Cobalt	5.0	.08	anr	
Copper	2.5	.07	anr	
Iron	10.0	3.2	anr	
Lead	10.0	.16	0.57	<10.0
Magnesium	500 .	1.8	anr	
Manganese	1.5	.02	anr	
Molybdenum	5.0	. 07	anr	
Nickel	4.0	.1	anr	
Potassium	500	2.8	anr	
Selenium	10.0	.2	anr	
Silver	1.0	. 1	anr	
Sodium	500	15.3	anr	
Thallium	1.0	.27	anr	
Tin	5.0	.22	anr	
Vanadium	5.0	.07	anr	7 F. 114 144 1 444
Zinc	2.0	.08	anr	1 1

Associated samples MP2127: F4975-4, F4975-5, F4975-6, F4975-7, F4975-8, F4975-9, F4975-10

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (anr) Analyte not requested

£ 000000

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F4975 ACCOUNT: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2126 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/07/99

10/07/99

-							
Metal	F4951-10R Oxiginal DUP	RPD	QC Limits	F4951-10R Original MS	Spikelo MPFLICP		QC Limits
Aluminum	anr					4.	
Antimony	anr						
Arsenic	anr						
Barium	anr						
Beryllium	anr						
Cadmium	anr					. * .	
ualcium	anr						
Chromium	ànr						
Cobalt	anr						•
Copper	anr					9681 194 1960	:
Tron	anr						
Lead	67.6 74.1	9.1	0-44	67.6 213	113.34	128.2N	60-127
Magnesium	anr .					7 + 1919 1 1 + 1919 1 1 + 1810 1	
Manganese	anr					1	
Molybdenum	anr		· ·				4
Nickel	anr						
Potassium	anr						
Selenium	anr		•				· 4
Silver	anr						
Sodium	anr						* * *
Thallium	anr						
Tin	anr						
Vanadium	anr						
Zinc	anr	an maji Y					

Associated samples MP2126: F4975-1, F4975-2, F4975-3

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

•

OVERVIEW

One (1) soil sample was analyzed for TAL Metals by EPA SW-846 Methods 6010/7471, and one (1) sample was analyzed for lead by EPA SW-846 Method 6010. No site-specific Quality Control samples were analyzed. Accutest, located in Orlando, FL, performed the analyses.

SUMMARY

These samples were analyzed successfully.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

- The initial and/or continuing calibration blanks contained the metals aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, silver, sodium, thallium, vanadium and zinc. Sample results with concentrations less than five (5) times the blank concentration are qualified as blank contaminated (B).
- TAL metal matrix spike and matrix spike duplicate samples had a low recovery of silver. Silver results will be qualified biased low (L or UL).
- The serial dilution sample had elevated recoveries of calcium, copper, lead, magnesium, potassium and zinc. The results for these analytes should be qualified estimated (J).

NOTES

- The low concentration check standard was recovered low for lead. However, the regular standard was recovered acceptably, so no data qualification is necessary.
- The method blank was analyzed successfully.
- The laboratory duplicate was successfully analyzed.
- The concentrations of alumium and iron added to the TAL metals matrix spike and matrix spike duplicate was less than four (4) times the original standard concentration. The lead matrix spike and matrix spike duplicate spike concentrations were also less than four (4) times the original concentration.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification

(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation

(Can be used for both positive results and sample quantitation limits)

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

Other Codes

- Q = No analytical result.
- NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Site: FNTC - Bainbridge - Small Arms Ranges Confirmation Results Lab: Accutest
Reviewer: Michael J. Lacy, Ph.D.
Date: 21 October 1999
Report Number: F4993

Sample I.D.	404-11C1	<u>ნ</u>	404-30C	ပ္က
Matrix	Soil		Sol	
Units	mg/kg	_	mg/kg	
Date Sampled	9/29/1999	66	9/25/1999	66
Time Sampled	1527		1118	
% Moisture	5.2		6.5	
Hd	N/A		N/A	
Difution Factor	1.0	_	1.0	
	Result	۸۵	Result	Va
Lead			345	

VQ - Validation Qualifier

ATTACHMENT C

Laboratory Reported Results



Page 1 of 1

Client Sample ID: 404-11C1 Lab Sample ID: F4993-2

SO - Soil

Date Sampled: 09/29/99 Date Received: 10/01/99

Percent Solids: 94.8

Project:

Matrix:

Bainbridge

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	Ву	Method
Aluminum	13800	20.1	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Antimony	1.0 B	6.0	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Arsenic	4.7	1.0	mg/kg	1	10/07/99	10/07/99	JΚ	SW846 6010A
Barium	33.5	20.1	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Beryllium	0.33 B	0.50	mg/kg	1	10/07/99	10/07/99	JΚ	5W846 6010A
Cadmium	0.03 U	0.40	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Calcium	410 B	502	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Chromium	19.0	1.0	mg/kg	1	10/07/99	10/07/99 .	JК	SW846 6010A
Cobalt	2.0 B	5.0	mg/kg	1	10/07/99	10/07/99	JΚ	SW846 6010A
Copper	5.7	2.5	mg/kg	1	10/07/99	10/07/99	JΚ	SW846 6010A
Iron	15000	10.0	mg/kg	1	10/07/99	10/07/99	JК	SW846 6010A
Lead	16.9	10.0	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Magnesium	273 B	502	mg/kg	1	10/07/99	10/07/99	JΚ	SW846 6010A
Manganese	138	1.5	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Mercury	0.02 B	0.17	mg/kg	1	10/05/99	10/05/99	SJL	SW846 7471A
Nickel	3.2 B	4.0	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Potassium	324 B	502	mg/kg	1	10/07/99	10/07/99	JК	SW846 6010A
Selenium	0.20 U	10.0	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Silver	0.1 U	1.0	mg/kg	1	10/07/99	10/07/99	ЛK	SW846 6010A
Sodium	262 B	502	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A
Thallium	0.27 U	1.0	mg/kg	1	10/07/99	10/07/99	ΙK	SW846 6010A
Vanadium	28.5	5.0	mg/kg	1	10/07/99	10/07/99	JΚ	SW846 6010A
Zinc	7.6	2.0	mg/kg	1	10/07/99	10/07/99	JK	SW846 6010A



Page 1 of 1

Client Sample ID: 404-30C

Lab Sample ID: Matrix:

F4993-3

Date Sampled: 09/25/99

SO - Soil Date Received: 10/01/99

Percent Solids: 93.5

Project:

Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

Lead 345 10.9 mg/kg 1 10/07/99 10/07/99 лк

SW846 6010A

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation

IN.	IATIONAL
TEC	HNOLOGY
COR	PORATION

ANALYSIS REG ST AND CHAIN OF CUSTODY RECORD*

Reference Document No	ეკვნზ
Page 1 of _ /_	

mole Team Memb	No. 1 Bumbridge 1875 2 Treater/1411	eg er	Lab De	estination	8 Accu	best Lub	2740 Musside Mouroeville, 1	
Profit Center	No. ³		Lab	Contact	9 Line	1-425-6760 1 = Williams	Monroeville	
Project Mana	ager ⁴ L.Steann	-> Proje	ct Contac	t/Phone	12 Dici	1-425-6760 1c Williams 0-378-3450 Final Treater Report to	Dorothy Sma 10 Curry Steen	ll -us
Purchase Order	No. 6 748939-0	707	Carrier/W	'aybill No.	13 Fede	×792277094331	IT Lump 2790 Mossid	. Bud
Required Report D	late 11 3days		ONE	CONT	AINER	PER LINE	Monroeville	
Sample ¹⁴ Number	Sample 15 Description/Type	Date/Time 16 Collected	Container ¹ Type	⁷ Sample ¹⁸ Volume	Pre- ¹⁹ servative	Requested Testing ²⁰ Program	Condition on ²¹ Receipt	Disposal ²² Record No.
409-76C	Cimp 3pt Suil Bldg 404 Grid P3	1109	1-803	203	4°c	Total Lead	F4981	MS/45D
404-11C1	Comp 3pt Sich Billy 404 Grid PS					Total lead 6010 TAL Metals	-Z.	
404-30C	Comp 3pt Soil Bldy404 Gridf6	1118		\ \		Total Lead 6010	- 3	
707-P5A	Comp 5 pt Suil Bldg 707 Pile 5A	9/30/99		803	1	TCLP Lead 1311/6010		}
		-		 				
		 	<u> </u>	 			**	
				<u> </u>			<u> </u>	<u> </u>
	ons: 23 E-marl W			y Small	/ 			·
Possible Hazard Von-hazarc ユ F	ldentification: ²⁴ Iammable 🔟 - Skin Irr	Lead itant I Pois	ر son B∶ i	Unknow		Sample Disposal: ²⁵ Return to Client' Dispo	osal by Lab 俎 — Archive	e (mos.)
urnaround Time	Required: 26	ay s		C Level: 2	7	Project Specific (specify):		
. Relinquished by	28 Dick Treat	er Dat	e: 9/30	189		ved by 28	Date: Time:	10.199
2. Relinquished by		Dat Tim	e:		2. Recei (Signature/A	ved by	Coole/ 47 Date: Time:	
		Dat	<u> </u>	17,	3. Recei	yed by	Date:	

Accutest Laboratories Southeast <u>Case Narrative</u>

Job (SDG) No.: F4943	_	
Samples: !		 .
Analysis Performed: MttalS		
1) Sample Receipt Conformance / Non-Confo	rmance Summary	
Custody Seals on Coolers?	Yes (c)	No ()
Custody Seals in Tact?	rax	No ()
Chain of Custody Sealed in Plastic?	Yes (i)	No ()
Chain of Custody Filled out Properly?	Yes(i)	No ()
Enough ice and Packing material?	Yell	No ()
All Bottles Sealed?	Yes (V)	No ()
Any Bottles Broken?	Yes ()	2001)
Labels in good condition?	Yes (i)	No ()
Labels agree with chain of custody?	Yes (1)	No ()
Correct Containers Used?	1'80(1)	No ()
Preserved Properly?	Yes (4)	No ()
Sufficient Sample?	1000)	No ()
Comments:		-

Accutest Laboratories Southeast <u>Case Narrative</u>

3) Metals Conformance / Non-conformance Summary		
Blank level below reporting limits? MP 3 127 MP 3 125	Yes (U)	No ()
If no, list analytes above reporting limits:		
Spike blank (LCS) data within acceptable Limits?	Yes (L)	No ()
If no, list analytes outside of acceptable limits. Refer to QC summary for addit MP 2127 /11P265	ional Comments:	
Matrix spike data within acceptable limits?	Yes ()	No (c)
If no, list analytes outside of acceptable limits. Refer to QC summary for addit Dee Pacys 39,40 For Al, Fe ort i Seef	ional Comments: USI 42,43	
Matrix duplicate data within acceptable limits?	Yes ()	No ()
If no. list analytes outside of acceptable limits. Refer to OC summary for addit 5b out see Page 37 fer Details	ional Comments:	
Samples prepared and analyzed within holding time?	Yes (w)	No ()
If holding times were not met, list analytes where holding times were exceeded	l and explain:	
	Yes (L)	
All analytical criteria met (calibration, CCV, ICV, CCB, etc.)?	Yes (M	No ()
If not met, list effected samples and analytes:	<u> </u>	
Comments: Ms lauf Railuire du T ma	Trix.	
•		

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F4993 Account: ITFAMONT IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1007M1.ASC

OC Limits: 70 to 130 % Recovery

Date Analyzed: 10/07/99

Methods: SW846 6010A

Run ID: MA1578 Units: ug/l

500	10				
	10				$\mathcal{A}_{\mathcal{A}}$
		7.4B	74.0		
	10	10.0	100.0		
200				206	103.1
5.0				5.7	114.8
5.0				5.3	106.8
1000					
ΤO				10.6	106.3
50				50.7	101.4
25				24.2B	97.0
300					
	10	7.6B	76.0		
5000					- 사용하다
15 .				15.4	102.3
50					
40				42.6	106.6
5000					
	10	10.9B	109.3		(1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
10				10.3	103.2
5000					가는 수 있다. 가는 사람들
	10	12.0	119.9		
50					
50				49.9B	99.8
					117.4
	5.0 5.0 1000 10 50 25 300 5000 15 50 40 5000 50 50 50 50 50 50 50 50	5.0 5.0 1000 10 50 25 300 10 5000 10 5000 10 5000 10 5000 10 5000	5.0 5.0 1000 10 50 25 300 10 7.6B 5000 15 50 40 5000 10 10.9B 10 5000 10 12.0 50	5.0 5.0 1000 10 50 25 300 10 7.6B 76.0 5000 15 50 40 5000 10 10.9B 109.3 10 5000 10 12.0 119.9 50 50	5.0 5.7 5.0 5.3 1000 10 10.6 50 50.7 25 24.2B 300 10 7.6B 76.0 5000 15 15.4 50 40 42.6 5000 10 10.9B 109.3 10 5000 10 12.0 119.9 50 50 49.9B

(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4993 Account: ITPAMONR IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1006M1.ASC OC Limits: result < RDL

Date Analyzed: 10/06/99 Run ID: MA1576 Methods: SW845 6010A

D: MA1576 Units: ug/l

Metal	RDL	IDL	ICB raw	final	ICB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	30	<u></u>	The garage	i.	1 N.		:		
Antimony	5.0	2.39			·.					1.4 24.4
Arsenic	10	3.4								• .
Barium	200	. 39			· :					100
Beryllium	5.0	. 3 <i>6</i>					•		ģ.	
Cadmium	5.0	.33							· A	
Calcium	1000	19.5					:			
Chromium	TO	.637			 	1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Cobalt	50	. 797								
Copper	25	.747			vij A				i e	
Iron	300	32							Y.	
Lead	5.0	1.59			1.9	<5.0B	2.7	<5.0B	3.9	<5.08
Magnesium	5000	17.6			; :					
Manganese	15 .	.16							i. An	
Molybdenum	50	.68								
Nickel	40	1			i.					
Potassium	5000	28.2							1 1 10	
Selenium	10	2							Ma Kaj Ra	
Silver	10	. 96) (V) (4)	
Sodium	5000	153			í E				i Ž	
Thallium	10	2.69			#1 # V1				7 1 1	
Tin	50	2.2			E E					
Vanadium	50	.717							y. S	
Zinc	20	- 83			1				<u>.</u>	

(*) Outside of QC limits
(anr) Analyte not requested

Login Number: F4993 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1006M1.ASC QC Limits: result < RDL

Date Analyzed: 10/06/99

Methods: SW846 6010A

Run ID: MA1576 Units: ug/l

·				*3/*						
Metal	RDL	IDL	CCB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	30	anr		· .					
Antimony	5.0	2.39	anr				•			
Arsenic	10	3.4	anr							
Barium	200	.39	anr							
Beryllium	5.0	. 36	anr				1		i L	
Cadmium	5.0	. 33	anr							
Calcium	1000	19.5	anr		Ž.					
Chromium	10	.637	qur		i. V		6 5 2			
Cobalt	50	. 797	anr		i.			- 1. 1.24 s	1. 	
Copper	25	.747	anr				3	និង ទូវិ ប្រា មកនិស្សិត និងស្វាស់	Ė	
Iron	300	32	anr					1)7/4 1- 7 1- 80	:	
Lead	5.0	1.59	1.8	₹5.0B	1,9	<5.0B	¥ 1		2.9	<5.0
Magnesium	5000	17.6	anr							
Manganese	15	.16	anr							
Molybdenum	50	.68	anr		i.		d -			
Nickel	40	1	anr		3 2		: :			
Potassium	5000	28.2	anr		1 			1, j.j. 14. 1 19. 1 19.	is N	
Selenium	10	2	anr		18 1			1 12 1 25 2 48	11. 14.	
Silver	10	.96	anr							
Sodium	5000	153	anr	- 14	i.					
Thallium	10	2.69	anr						Ž	
Tin	50	2.2	anr					. 1341. U U 1882		
Vanadium	50	. 717	anr				• [
Zinc	20	. 93	anr		· .					

(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4993 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1006M1.ASC QC Limits: result < RDL

Date Analyzed: 10/06/99 Run ID: MA1576

Methods: SW846 6010A Units: ug/l

OC MINITES: 10	esuit C K	DLI		Kan	III: POAT-	78 Units: ug/1	
Metal	RDL	IDL	CCB raw	final	CCB raw	final	
Aluminum	200	30	алг	*			
Antimony	5.0	2.39	anr				
Arsenic	10	3.4	anr				
Barium	200	.39	anr	1991			
Beryllium	5.0	.36	anr			11. · · · · · · · · · · · · · · · · · ·	
Cadmium	5.0	.33	anr	Tyl Alg	•		
Calcium	1000	19.5	anr				
Chromium	10	. 637	anr				
Cobalt	50	. 797	anr				
Copper	25	. 747	anr				
Iron	300	32	anr				
Lead	5.0	1.59	5.9	<15	3.8	<5.0B	
Magnesium	5000	17.6	anr				
Manganese	15	. 16	anr				
Molybdenum	50	. 68	anr			de transfil 1. April 1. Julie 1. April 1. April 1.	
Nickel	40	1	anr				
Potassium	5000	28.2	anr		li L		
Selenium	10	2	anr		7		
Silver	10	. 96	anr		Ŷ.		
Sodium	5000	153	anr				
Thallium	10	2.69	anr				
Tin	50	2.2	anr				
Vanadium	50	.717	anr				←
Zinç	20	.83	anr	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			

^(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4993 Account: ITFAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1007M1.ASC OC Limits: result < RDL Date Analyzed: 10/07/99 Run ID: MA1578

Methods: SW846 6010A

Units: ug/l

OC BINITES, IC					ID. TEATS?	<u> </u>						
Metal	RDL	IDL	ICB raw	final	CCB raw	final	CCB raw	final	CCB raw	final		
Aluminum	200	30	18.0	<300	32.6	<2008	66.9	<200B				
Antimony	60	2.39	5.1	<60.0B	3.6	<60.0B	6.9	<60.0B		* 1		
Arsenic	10	3.4	-1.3	<10.0	-0.30	<10.0	3.5	<10.0B		•		
Barium	200	. 39	0.90	<200B	1.0	<200B	0.80	<200B				
Beryllium	5.0	.36	1.3	<5.0B	1.4	<5.0B	1.6	<5.0B				
Cadmium	4.0	.33	0.90	<4.0B	1.1	<4.08	0.90	<4.0B				
Calcium	5000	19.5	15.5	<5000	18.3	<5000	59.9	<5000B				
Chromium	10	.637	0.80	<10.0B	1.2	<10.0D	1.0	<10.02				
Cobalt	50	.797	0.90	<50.0B	0.90	<50.0B	0.80	<50.0B				
Copper	25	.747	-0.30	<25.0	-0.20	<25.0	-0.70	<25.0				
Iron	100	32	14.3	<100	21.1	<100	36.0	<100B				
Lead	100	1.59	0.20	<100	1.8	<100B	1.4	<100				
Magnesium	5000	17.6	16.5	<5000	19.0	<5000B	61.6	<5000B				
Manganese	15 .	.16	0.80	<15.0B	1.0	<15.03	0.80	<15.0B				
Molybdenum	50	. 68	anr				; :		-			
Nickel	40	1	0.80	<40.0	0.30	<40.0	0.80	<40.0				
Potassium	5000	28.2	1.9	<5000	: 30.9	<5000B	16.3	<5000				
Selenium	100	2	1.1	<100	0.20	<100	0.70	<100				
Silver	10	.96	1.0	<10.0B	0.50	<10.0	1.4	<10.0B	:			
Sodium	5000	153	-35.8	<5000	-105	<5000	-78.3	<5000				
Thallium	10	2.69	7.1	<10.0B	4.4	<10.0B	4.7	<10.0B				
Tin	50	2.2	anr				:					
Vanadium	50	.717	1.6	<50.0B	1.2	<50.0B	1.1	<50.0B				
Zinc	20	. 23	0.50	<20.0	1.1	<20.0B	0.40	<20.0		i r		

(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4993 Account: ITFAMONR - IT Comporation Project: ITFAMONR1597 - Bainbridge

File ID: IR1007M1.ASC QC Limits: result < RDL Date Analyzed: 10/07/99 Run ID: MA1578

Methods: SW846 6010A Units: ug/l

Metal	RDL	IDL	ccs raw	final	CCB Taw	final	CCB raw	final	CCB raw	final
Aluminum	200	30	13 1	<300	56.7	<200B	66.6	<200B	52.6	<200B
Antimony	60	2.39	4.7	<200	4.4	<60.0B	5.2	<60.0B	3.7	<60.0B
Arsenic	10	3.4	0.10	<500	1.3	<10.0	0.60	<10.0	-0.70	<10.0
Barium	200	.39	0.040	<1000	1.3	<200B	1.2	<200B	1.1	<200B
Beryllium	5.0	.36	1.1	<5.0	2.2	<5.0B	2.3	<5.0B	2.4	<5.08
Cadmium	4.0	. 33	0.0	<50	0.80	<4.0B	0.80	<4.0B	1.1	<4.08
Calcium	5000	19.5	-1.7	<5000	15.8	<5000	18.2	<5000	. 24.7	<5000B
Chromlum	10	. 637	0.050	√50	1.4	-10.0D	1.3	<10.0B	1.2	-10.0B
Cobalt	50	. 797	0.0	<50	1.0	<50.0B	0.80	<50.0B	0.70	<50.0
Copper	25	.747	-2.3	<25	-1.7	<25.0B	-1.7	<25.0B	-2.4	<25.0B
Iron	100	32	0.89	<100	32.2	<100B	61.8	<100B	41.2	<100B
Lead	100	1.59	9.8	<500	13.0	<100B	5.3	<100B	6.7	<100B
Magnesium	5000	17.6	0.89	<5000	19.4	<5000B	24.2	<5000B	21.3	<5000B
Manganese	15 .	.16	0.13	<15	1.2	<15.0B	1.9	<15.0B	1.8	<15.0B
Molybdenum	50	.68	anr							
Nickel	40	1	-0.43	<40	0.90	<40.0	2.5	<40.0B	2.4	<40.0B
Potassium	5000	28.2	-11	<5000	10.0	<5000	18.5	<5000	8.3	<5000
Selenium	100	2	1.0	<500	2.4	<100B	0.60	<100	1.2	<100
Silver	10	. 96	0.98	<50	2.1	<10.0B	1.0	<10.0B	0.40	<10.0
Sodium	5000	153	-250	<5000	-154	<5000B	-0.50	<5000	-100	<5000
Thallium	10	2.69	3.2	<500	7.2	<10.0B	7.8	<10.0B	4.7	<10.0B
Tin	50	2.2	anr							
Vanadium	50	.717	0.37	<50	1.6	<50.0B	1.8	<50.0B	1.6	<50.0B
Zinc	20	.83	-0.75	<20	0.30	<20.0	0.20	<20.0	0.40	<20.0

(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4993 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1007M1.ASC QC Limits: result < RDL Date Analyzed: 10/07/99 Methods: SW846 6010A Run ID: MA1578 Units: uq/l

QC Limits: r	esult < R	DL		Run	ID: MA157	8	Units: u	lq/1
Metal	RDL	IDL	CCB raw	final	CCB	final	CCB raw	final
Aluminum	200	30	43.6	<200D	44.5	<200	36.1	<200
Antimony	60	2.39	6.2	<60.0B	5.5	<200	2.8	<200
Arsenic	10	3.4	0.80	<10.0	0.98	<500	-0.80	<500
Barium	200	. 39	1.4	<200B	0.72	<1000	0.38	<1000
Beryllium	5.0	.36	2.3	<5.0B	2.0	<5.0	1.7	<5.0
Cadmium	4.0	. 33	1.0	<4.0B	0.57	<50	0.36	<50
Calcium	5000	19.5	60.6	<5000B	14.7	<5000	6.3	<5000
Chromium	10	.637	1.6	<10.0B	0.91	<50	0.43	<50
Cobalt	50	.797	1.2	<50.0B	0.60	<50	0.20	<50
Copper	25	.747	-1.2	<25.0B	-2.0	<25	-2.1	<25
Iron	100	32	30.4	<100	12.5	<100	-0.10	<100
Lead	100	1.59	6.8	<100B	14.6	<500	18.8	<500
Magnesium	5000	17.6	24.1	<5000B	14.4	<5000	7.3	<5000
Manganese	15 .	. 16	1.5	<15.0B	0.79	<15	0.44	<15
Molybdenum	50	. 68	anr		:			
Nickel	40	1	2.1	<40.0B	-0.090	<40	-0.020	<40
Potassium	5000	28.2	85.1	<5000B	51.0	<5000	38.1	<5000
Selenium	100	2	1.8	<100	-0.52	<500	-0.21	<500
Silver	10	. 96	1.7	<10.0B	1.8	<50	1.5	<50
Sodium	5000	153	105	<5000	221	<5000	68.7	<5000
Thallium	10	2.69	8.7	<10.0B	7.4	<500	4.2	<500
Tin	\$0	2.2	anr					
Vanadium	50	.717	1.6	<50.0B	1.1	<50	0.49	< 50
Zinc	\$0	. 83	0.50	<20.0	0.020	<20	-0.35	<20

^(*) Outside of QC limits (anr) Analyte not requested

BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: F4993 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2127 Matrix Type: SOLID

Methods: SW846 6010A

Units: mg/kg

Prep Date:

10/07/99

mecal	RDL	IDL	MB	final
Aluminum	20.0	3	3.7	<20.0
Antimony	6.0	. 24	-0.02	<6.0
Arsenic	1.0	. 34	0.09	<1.0
Barium	20.0	. 04	0.07	<20.0
Beryllium	0.50	. 04	0.14	<0.50
Cadmium	0.40	. 03	0.02	<0.40
Calcium	500	2	0.66	<500
Chromium	1.0	.06	0.08	<1.0
Cobalt	5 0	. 08	0.02	<5.0
Copper	2.5	. 07	-0.28	<2.5
Iron	10.0	3.2	2.3	<10.0
Lead	10.0	.16	0.57	<10.0
Magnesium	500	. 1.8	0.63	<500
Manganese	1.5	.02	0.04	<1.5
Molybdenum	5.0	. 07	anr	
Nickel	4.0	.1	-0.02	<4.0
Potassium	500	2.8	0.98	<500
Selenium	10.0	. 2	-0.19	<10.0
Silver	1.0	.1	0.12	<1.0
Sodium	500	15.3	-13.8	<500
Thallium	1.0	.27	0.18	<1.0
Tin	5.0	. 22	anr	
Vanadium	5.0	.07	0.08	<5.0
Zinc	2.0	.08	1.2	<2.0

Associated samples MP2127: F4993-1, F4993-2, F4993-3

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (anr) Analyte not requested

BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: F4993 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2107 Matrix Type: AQUEOUS Methods: SW846 6010A

Units: mg/l

Prep Date:

09/29/99

09/29/99

09/29/99

						02/23/33		05/25/55
Metal	RDL	IDL	MB raw	final	MB raw	final	MB	final
Aluminum	0.20	. 03	anr	14.		2515		
Antimony	0.0050	.00239	anr	1				· · · ·
Arsenic	0.010	.00345	anr					
Barium	0.20	.00039	anr	u yangan				
Beryllium	0.0050	.000363	anr					
Cadmium	0.0050	.00033	anr		· ·			
Calcium	1.0	.0195	anr					
Chromium	0.010	.000637	anr					
Cobalt	0.050	.000797	anr					
Copper	0.025	.000747						
Iron	0.10	.032	anr					
Lead	0.0050	.00159	0.0037	<0.0050	0.015	<0.015	0.0064	<0.50
Magnesium	5.0 .	.0176	anr					
langanese	0.015	.00016	anr					
Molybdenum	0.050	.00068	anr		-			
Nickel	0.040	.001	anr					
Potassium	5 - 0	.0282	anr					
Selenium	0.010	.00204	anr		: -			
Silver	0.010	.000963	anr					. 1 mg/d 1 d mg 1 d mg/d 1 d mg/d
Sodium	5.0	.153	anr					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Thallium	0.010	.00269	anr					
r in	0.050	.00223	anr					
Vanadium	0.050	.000717	anr					
inc	0.020	.00083		·				

Associated samples MP2107: F4993-4

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

(anr) Analyte not requested

Login Number: F4993 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

OC Batch ID: MP2127 Matrix Type: SOLID

Methods: SW846 6010A Units. mg/kg

Prep Date:

10/07/99

10/07/99

								20,00,00	
Metal	r4993-2 Original	DUP	RPD	OC Limits	F4993-2 Original	MS	Spikelot MPFLICP		QC Limits
Aluminum	13800	15200	9.5	0-20	13800	25900	3121.5	387.2(b)	80~120
Antimony	1.0	1.4	31.4 (a)	0-20	1.0	84.8	107.64	77.9N	80-120
Arsenic	4.7	5.6	17.2	0-28	4.7	364	430.55	83.5	72-110
Barium	33.5	37.1	10.1	0-14	33.5	441	430.55	94.6	64-116
Beryllium	0.33	0.37	12.1	0-20	0.33	10.2	10.76	92.0	80-120
Cadmium	0.0	0.0	NC	0-16	0.0	9.4	10.76	87.7	64-120
Calcium	410	453	10.0	0-20	410	3000	2690.95	96.1	80-120
Chromium	19.0	21.0	9.9	0-33	19.0	62.4	43.06	100.8	66-119
Cobalt	2.0	2.2	11.9	0-20	2.0	96.9	107.64	99.2	A0-120
Copper	5.7	6.3	9.6	0-39	5.7	56.1	53.82	93.7	65-124
Iron	15000	16500	9.8	0-20	15000	19300	2906.23	149.4(b)	80-120
Lead	16.9	18.7	10.0	0-44	16.9	123	107.64	98.9	60-127
Magnesium	273	303	10.3	0-20	273	2800	2690.95	93.9	60-120
Manganese	138	152	9.8	0-20	138	251	107.64	104.9	80-120
Molybdenum	anr								
Nickel	3.2	3.5	10.8	0-30	3.2	103	107.64	92.5	71-119
Potassium	324	355	9.1	0-20	324	2870	2690.95	94.7	80-120
Selenium	Q.O	0.0	NC	0-28	0.0	379	430.55	87.9	65-115
Silver	0.0	0.0	NC	0-21	0.0	7.9	10.76	73.8	63-123
Sodium	262	301	13.7	0-20	262	2500	2690.95	63.3	60-120
Thallium	0.0	0.0	NC	0-20	0.0	398	430.55	92.4	80-120
Tin	anr		* .						
Vanadium	28.5	31.5	10.1	0-20	28.5	128	107.64	92.5	80-120
Zinc	7.6	8.6	12.7	0-31	7.6	105	107.64	90.7	69-120

Associated samples MP2127: F4993-1, F4993-2, F4993-3

Results < IDL are shown as zero for calculation purposes

(anr) Analyte not requested

^(*) Outside of QC limits

⁽N) Matrix Spike Rec. outside of QC limits

⁽a) RPD acceptable due to low duplicate and sample concentrations.

⁽b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Login Number: F4993 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2127 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/07/99

Metal	F4993-2 Original	MSD	Spikelot MPFLICP		QC Limits
Aluminum	13800	24700	2941.42	367.8(a)	80-120
Antimony	1.0	80.7	101.43	78.6N	80-120
Arsenic	4.7	346	405.71	84.1	72-110
Barium	33.5	419	405.71	95.0	64-116
Beryllium	0.33	9.7	10.14	92.7	80-120
Cadmium	0.0	9.0	10.14	88.8	64-120
Calcium	410	2850	2535.7	96.3	80-120
Chromium	19.0	59.3	40.57	99.3	66-119
Cobalt	2.0	92.2	101.43	88.5	80-120
Copper	5.7	53.3	50.71	93.9	65-124
Iron	15000	18400	2738.56	123.8(a)	80-120
Lead	16.9	117	101.43	99.1	60-127
Magnesium	273	2670	2535.7	94.4	80-120
Manganese	138	239	101.43	99.1	80-120
Molybdenum					
Nickel	3.2	97.9	101.43	93.5	71-119
Potassium	324	2730	2535.7	95.0	80-120
Colonium	0.0	361	405.71	88.9	65-115
Silver	0.0	7.6	10.14	74.6	63-123
Sodium	262	2370	2535.7	83.0	80-120
Thallium	0.0	379	405.71	93.4	80-120
Tin					
Vanadium	28.5	122	101.43	91.9	80-120
Zinc	7.6	100	101.43	91.3	69-120

Associated samples MP2127: F4993-1, F4993-2, F4993-3

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

⁽N) Matrix Spike Rec. outside of QC limits

⁽anr) Analyte not requested

⁽a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Login Number: F4993 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2107 Matrix Type: Aquaous

Methods: SW846 6010A

Units: mg/l

Prep Date:

09/29/99

09/29/99

Metal	F4959-1 Original	DUP	RPD	QC Limits	F4959-1 Original	MS	Spikelot MpFLICP	% Rec	QC Limíts
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	gnr								
Copper	anr								
Iron	anr								
Lead	64.2	65.3	1.7	0-44	64.2	63.0	1.00	-120.0(a	60-127
Magnesium	anr								
Manganese	anr								
Molybdenum	anr								
Nickel	anr							***	
Potassium	anr								
Colonium	anr								
Silver	anr								
Sodium	anr								
Thallium	anr								
Tin	anr								=
Vanadium	anr								
Zine	anr								

Associated samples MP2107: F4993-4

Results < IDL are shown as zero for calculation purposes

^(*) Outside of QC limits

 ⁽a) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested
 (a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Login Number: F4993 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2107 Mattia Type, AQUEOUS Methods: SW846 6010A

Units: mg/l

Prep Date:

09/29/99

Metal	F4959-1 Original MSD	Spikelot MPFLICP	Rec	QC Limits		-
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Cadmium	anr					
Calcium	anr		-			
Chromium	anr					
Cobalt	enr					
Copper	anr					
Iron	anr					
Lead	64.2 62.	4 1.00	-180.0(a	60-127		
Magnesium	anr '					
Manganese	anr					
Molybdenum						
Nickel	anr					
Potassium	anr					
Selenium	anr					
Silver	anr					
Sodium	anr					
Thallium	anr					
Tin						
Vanadium	anr					
Zinc	anr		•			

Associated samples MP2107: F4993-4

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits $% \left\{ \frac{1}{2}\right\} =2$

- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SERIAL DILUTION RESULTS SUMMARY

Login Number: F4993 Account: ITPAMONR IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2127 Matrix Type: SOLID

Methods: SW846 6010A

Units: ug/l

Prep Date:

10/07/99

	F4993-2		··· -	ØC .
Metal	Original	SDL 1:5	RPD	Limits
Aluminum	138000	149000	8.4	0-10
Antimony	9.95	18.8	88.5 (a)	0-10
Arsenic	46.8	57.2	22.4 (a)	0-10
Barium	333	366	10.0	0-10
Beryllium	3.28	9.62	193.3(a)	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	4080	4660	14.4	0-10
Chromium	189	203	7.5	0-10
Cobalt	19.9	35.4	77.9 (a)	0-10
Copper	56.7	76.4	34.7	0-10
Iron	149000	159000	6.9	0-10
Lead	168	201	19.5	0-10
Magnesium	2720	3030	11.2	0-10
Manganese	1380	1470	7.0	0-10
Molybdenum	anr			
Nickel	31.4	36.9	17.5 (a)	0-10
Potassium	3220	3590	11.3	0-10
Selenium	0.00	17.5		0-10
Silver	0.00	0.00	NC	0-10
Sodium	2610	1420	45.5 (a)	0-10
Thallium	0.00	14.9		0-10
Tin	anr			
Vanadium	284	306	7.8	0-10
Zinc	75.3	152	101.2	0-10

Associated samples MP2127: F4993-1, F4993-2, F4993-3

Results < IDL are shown as zero for calculation purposes

^(*) Outside of QC limits

⁽anr) Analyte not requested

⁽a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Login Number: F4993
Account: ITPAMONR - IT Corporation
Project: ITPAMONR1597 - Bainbridge

File ID: HG1005S1.HGD QC Limits: result < RDL Date Analyzed: 10/05/99 Run ID: MA1575

Methods: SW846 7471A

. DIMILLO. LEGULL C RDU		RULL ID. PAIDID	Units. 49/1
			
	ICB	CCB	CCB

Metal	RDL	IDL	ICB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Mercury	1.0	. 06	-0.068	<1.0	0.0048	<1.0	0	<1.0	٥	<1.0

(*) Outside of QC limits (anr) Analyte not requested

Login Number: F4993 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: HG1005S1.HGD QC Limits: result < RDL

Date Analyzed: 10/05/99

Methods: SW846 7471A Units: uq/l

Run ID: MA1575

Metal	RDL	IDL	CCB	final	CCB raw	final
Mercury	1.0	.06	-0.044	<1.0	-0.068	<1.0

(*) Outside of QC limits (anr) Analyte not requested

OVERVIEW

Three (3) soil samples were analyzed for TAL Metals by EPA SW-846 Methods 6010/7471, and two (2) samples were analyzed for lead by EPA SW-846 Method 6010. No site-specific Quality Control samples were analyzed. Accutest, located in Orlando, FL, performed the analyses.

SUMMARY

These samples were analyzed successfully.

MAJOR PROBLEMS

• Matrix spike and matrix spike duplicate samples had recoveries less than 30 percent for calcium, potassium and sodium. Any samples with these analytes not detected are required to have those results qualified unusable (R).

MINOR PROBLEMS

- The initial and/or continuing calibration blanks contained the metals aluminum, antimony, arsenic, barium, beryllium, cadmium calcium, chromium, cobalt, lead, magnesium, manganese, nickel, potassium, selenium, thallium, vanadium and zinc. Sample results with concentrations less than five (5) times the blank concentration are qualified as blank contaminated (B).
- Matrix spike and matrix spike duplicate samples had out of control recoveries of antimony,
 magnesium, manganese and silver. All were recovered low except manganese. Positive manganese
 results will be qualified biased high (K), while antimony, magnesium and silver will have all results
 qualified biased low (L or UL). Positive calcium, potassium and sodium results should be qualified
 biased low (L).

NOTES

There are no notes associated with this validation report.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification

(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation

(Can be used for both positive results and sample quantitation limits)

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

Other Codes

- Q = No analytical result.
- NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

J

ATTACHMENT B

Data Summary Forms

Site: FNTC - Bainbridge - Small Arms Ranges Confirmation Results

Lab: Accutest

Reviewer: Michael J. Lacy, Ph.D.

Date: 21 October 1999 Report Number: F5006

Sample I.D.	404-19	7C	404-101	C1	404-183	C1	4(4-92	C2	404-19	8C
Matrix	Soil		Soil		Soi		Soil		Soil	
Units	mg/kg	, 1	mg/kg		mg/kg		mg/kg		mg/kg	
Date Sampled	9/25/1999		9/29/1999		9/29/1999		10/2/1999		9/30/1999	
Time Sampled	1154		1518		1557		1406		1009	
% Moisture	7.3		7.3		6.8		10.9		14.7	
На	N/A		N/A		N/A		N/A		N/A	
Dilution Factor	1.0		1.0		1.0		1.0		1.0	
	Result	VQ	Result	VQ	Result	VQ	Result	va	Result	VQ
ad	1				247				286	<u> </u>

Aluminum	14400	1	16700				16700		***	
Antimony	0.97	JBL	0.85	JBL			1.4	JBL		ļ
Arsenic	3.7		4.6				3.1			
Barium	52.0	T	25.0		-		34.9			
Beryllium	0.61	В	0.29	JB			0.77	В		! —
Cadmium	<0.04	U	<0.03	U			<004	Ü		ļ.——
Calcium	710	JL	432	JL			792	JL		
Chromium	15.3		19.9				14.3			!
Cobalt	7.0		1.7	JB ¹			58	JB		├ ─
Copper	6.1		5.9	}		. —	67			-
Iron	13000		15800	<u></u>		l	14200	L		
Lead	70.5		14.0	В		<u></u>	124	L	<u> </u>	
Magnesium	792	L	357	JL			911	<u> </u>		
Manganese	301	К	64.6	K		<u> </u>	121	K		ļ
Mercury	0.05	J	0.02	J		<u> </u>	0.34	ᆜ		
Nickel	6.6	В	4.4	В	\ <u></u>	<u> </u>	78	B		↓ —
Potassium	567	JL	396	JL			918	JĻ		
Selenium	<0.22	U	<0.21	Ü		L_	< 0.24	U		↓
Silver	<0.11	UL	<0.1	UL	Γ	1	<0.11	UL		1-
Sodium	290	JBL	303	JBL		<u></u>	263	JBL		↓
Thallium	<0.29	U	<0.28	U		<u> </u>	<0.32	U		
Vanadum	24.5	1	28.3			<u> </u>	23.1	1	<u> </u>	1
Zinc	23.2		9.7			<u>L_</u>	24.3			

VQ - Validation Qualifier

ATTACHMENT C

Laboratory Reported Results



Page 1 of 1

Client Sample ID: 404-197C Lab Sample ID:

F5006-4

Matrix:

SO - Soil

Date Sampled: 09/25/99

Date Received: 10/05/99 Percent Solids: 90.4

Project:

Bainbridge

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	Ву	Method
Aluminum	14400	21.9	mg/kg	1	10/07/99	10/12/99	JК	SW846 6010A
Antimony	0.97 B	6.6	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Arsenic	3.7	1.1	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Barium	52.0	21.9	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Beryllium	0.61	0.55	mg/kg	1	10/07/99	10/12/99	IK	SW846 6010A
Cadmium	0.04 U	0.44	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Calcium	710	548	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Chromium	15.3	1.1	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Cobait	7.0	5.5	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Copper	6.1	2.7	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Iron	13000	11.0	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Lead	70.5	11.0	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Magnesium	792 .	548	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Manganese	301	1.6	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Mercury	0.05 B	0.14	mg/kg	1	10/07/99	10/08/99	SJL	SW846 7471A
Nickel	6.6	4.4	mg/kg	1	10/07/99	10/12/99	JК	SW846 6010A
Potassium	567	548	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Selenium	0.22 U	11.0	mg/kg	1	10/07/99	10/12/99	JΚ	SW846 6010A
Silver	0.11 U	1.1	mg/kg	1	10/07/99	10/12/99	JΚ	SW846 6010A
Sodium	290 B	548	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Thallium	0.29 U	1.1	mg/kg	1	10/07/99	10/12/99	JΚ	SW846 6010A
Vanadium	24.5	5.5	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A
Zinc	23.2	2.2	mg/kg	1	10/07/99	10/12/99	JK	SW846 6010A



Page 1 of 1

Client Sample ID: 404-101C1 Lab Sample ID: F5006-5 Matrix: SO - Soil

Project:

Bainbridge

Date Sampled: 09/29/99 Date Received: 10/05/99 Percent Solids: 92.7

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed By	Method
Aluminum	16700	20.7	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Antimony	0.85 B	6.2	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Arsenic	4.6	1.0	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A
Barium	25.0	20.7	mg/kg	1	10/07/99	10/12/99 JK	SW846 6010A
Beryllium	0.29 B	0.52	mg/kg	I	10/07/99	10/12/99 лк	\$W846 6010A
Cadmium	0.03 U	0.41	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Calcium	432 B	519	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Chromium	19.9	1.0	шу/ку	1	10/07/99	10/12/99 лк	SWR46 6010A
Cobalt	1.7 B	5.2	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A
Copper	5.9	2.6	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Iron	15800	10.4	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A
Lead	14.0	10.4	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A
Magnesium	357 B	519	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A
Manganese	64.6	1.6	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A
Mercury	0.02 B	0.19	mg/kg	1	10/07/99	10/08/99 SJL	SW846 7471A
Nickel	4.4	4.1	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Potassium	396 B	519	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Selenium	0.21 U	10.4	mg/kg	1	10/07/99	10/12/99 JK	SW846 6010A
Silver	0.1 U	1.0	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A
Sodium	303 B	519	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A
Thallium	0.28 U	1.0	mg/kg	1	10/07/99	10/12/99 JK	SW846 6010A
Vanadium	28.3	5.2	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A
Zinc	9.7	2.1	mg/kg	1	10/07/99	10/12/99 ЈК	SW846 6010A



Page 1 of 1

Client Sample ID: 404-183C1 Lab Sample ID: F5006-6

SO - Soil

Date Sampled: 09/29/99 Date Received: 10/05/99

Percent Solids: 93.2

Project:

Matrix:

Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

247 10.7 10/07/99 10/12/99 јк SW846 6010A Lead mg/kg 1



Page 1 of 1

Client Sample ID: 404-92C2 Lab Sample ID: F5006-7

Matrix:

SO - Soil

Date Sampled: 10/02/99

Date Received: 10/05/99

Project:

Bainbridge

Percent Solids: 89.1

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed By	Method
Aluminum	16700	23.6	mg/kg	i	10/07/99	10/12/99 јк	SW846 6010A
Antimony	1.4 B	7.1	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A
Arsenic	3.1	1.2	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A
Barium	34.9	23.6	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A
Beryllium	0.77	0.59	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Cadmium	0.04 U	0.47	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Calcium	792	591	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Chromium	14.3	1.2	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Cobalt	5.8 B	5.9	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Copper	6.7	3.0	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Iron	14200	11.8	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Lead	124	11.8	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Magnesium	911	591	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Manganese	121	1.8	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Mercury	0.04 B	0.16	mg/kg	1	10/07/99	10/08/99 SJL	SW846 7471A
Nickel	7.8	4.7	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Potassium	978	591	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A
Selenium	0.24 U	11.8	mg/kg	1	10/07/99	10/12/99 лк	\$W846 6010A
Silver	0.11 U	1.2	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A
Sodium	263 B	591	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Thallium	0.32 U	1.2	mg/kg	1	10/07/99	10/12/99 зк	SW846 6010A
Vanadium	23.1	5.9	mg/kg	1	10/07/99	10/12/99 јк	SW846 6010A
Zinc	24.3	2.4	mg/kg	1	10/07/99	10/12/99 лк	SW846 6010A



Page 1 of 1

Client Sample ID: 404-198C Lab Sample ID:

F5006-8 SO - Soil Date Sampled: 09/30/99 Date Received: 10/05/99 Percent Solids: 92.4

Project:

Matrix:

Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

Lead 286 10.1 10/07/99 10/12/99 JK mg/kg 1 SW846 6010A

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation



ANALYSIS R. UEST AND CHAIN OF CUSTODY RECORD*

Reference Document Page 1 of <u>1</u>

•		No. 1 Bainbrilge 74				0 /	1 () (5 IT wep 2790 Hosside B	Tud 10
5	•	ers ² Treater/KI	nyer	Lab De	stination	0 Acc	utest Lab 1-425-6780 12 w.11.2ms 10-378-3450 Extreater Report to	Monroeville, P	4 15146
	Profit Center I			Lab	Contact	y Lind	10-378-3450 F	Donath Sugal	
	Project Mana	•	Proje	ect Contact	:/Phone	12 P.	KTreater Report to	Dorothy Sucal	က် နော်
	Purchase Order I	No.6 242439-6	<i>07</i> (Carrier/Wa	aybill No.	13 Fede	×792277581920	IT Korp 2790 Husside	-
	Required Report D	ate 11 3 days		DNE	CONT	AINER	PER LINE	Monroeville,	
ب	Sample ¹⁴ Number	Sample ¹⁵ Description/Type	Date/Time ¹⁶ Collected	Container ¹⁷ Type	Sample ¹⁸ Volume	Pre- ¹⁹ servative		Condition on ²¹ Receipt	Disposal ²² Record No.
78/	404-PIB	Comp 5pt Suil Bldy 404 file 113	10/1/99	1-8.03	Eng	4°C	TCLP Lead 1311/6010		MS/MSD
2	204-PIIA	CompSpt Since Bld4204 P.L.11A	10/2/99 /120						
3	404 - P10A	Comp Spt Soil Bldy 404 Pile 10A	10/2/94		\				The Section of the Se
Δ	404-1970	Compapt Soil Bidg409 Grid P9	9/25/94	1-403	303		TOTAL LEAD 6010 TAL Metals		M5/M5D
-<	404-10101	Comp 3pt Soil Bldg 404 Grid PZ	9/24/99 15/8	1-603	~ 403		Total Lead Goio TAL Metals		5
<i>حار</i> ـ	404-183CI	Composit Suil Bldg 404 Grid PII	9/24/49		~ 203		Total lead 6010		
- 7	404-9202	7/0()	10/2/49		~ 203		Total Lead 6010 TAL Metals	Special States Street	
-8	404 - 19BC	Comp 3pt Sull Bld 404 Gred Plo	9/30/44	\	1203		Total Lead 6010		
	Special Instructo	ns: 23 &-11111/ he	sults to 1	Drothy	Small				
	Possible Hazard I Non-hazard 🔟 Fl	dentification: ²⁴ ammable 🔳 Skin Irri	لاديدالا ant يا Poi:	son B 🔟	Unknowi	· 저	Sample Disposal: 25 Return to Client Dispo	osal by Lab 🕍 🛚 Archive	(mas.)
	Turnaround Time				Level: 2	7 III. 24	Project Specific (specify):	Naug NFESC ieu	e(C
		28 Dick Treater Dick Frenter	Dat Tim	e: 70/4	188	1. Rece (Signature/	eived by 28 Rachib F	Poto	10199
	2. Relinquished by (Signature/Affliction)		Dat Tim			2. Rece (Signature/		Date: Tme:	
	3. Relinquished by (Signature/Affliction)		Dat Tim			3. Rece (Signature/		Date: Time:	
i	Comments: 29	Dies	======================================	3232					

INTERNATIONAL TECHNOLOGY
CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.30 <u>259870</u> Page <u>2</u> of <u>2</u>

. Project Name Banchridge

Project No. <u>1798939</u>

Samples Shipment Date 10/4/49

Sample 14 Sample 15 Date/Time 16 Container 17 Sample 18 Pro-19 Requested Teating 20 Condition on 21 Disposel 22 7 Number Description/Type Collected Type Volume servative Program Receipt Recard No.												
Sample 14 Number	Sample 15 Description/Type	Date/Time 16 Collected	Container ¹⁷ Type	Sample 18 Volume	Pre-19 servative	Requested Testing 20 Program	Candition on 21 Receipt	Disposal : Record No.				
204-P24A	Bldg 204 Pile 24 A	1550	1-803	803	4°C	70LP Lead 1311/6010						
204-P21A	Comp 5 pt Suil Buly 204 Pile 21A	1600					FOR	LAB				
204-P25A	Description/Type Emp 5 pt 5011 Bldg 204 Pile 24 A Comp 5 pt 5011 Bldg 204 Pile 21A Comp 5 pt 5011 Bidg 204 Pile 25 A Comp 5 pt 5011 Bidg 204 Pile 25 A Comp 5 pt 5011 Bidg 204 Pile 22 A	1750					USE	LAB				
204-P22A	Comp Spt Suil Bldg 204 Pile 22A	10/2/99										
								LAB				
		· · · · · · · · · · · · · · · · · · ·					FOR					
							USE	DINLY				
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							Rached De	4-10599				

Accutest Laboratories Southeast <u>Case Narrative</u>

Job (SDG) No.: F5006		
Samples: Notal S		
Analysis Performed: 17		
1) Sample Receipt Conformance / Non-Conform	nance Summary	
Custody Seals on Coolers?	Yell	No ()
Custody Seals in Tact?	Yes ()	No ()
Chain of Custody Sealed in Plastic?	Yes (a)	No ()
Chain of Custody Filled out Properly?	Yes (No ()
Enough ice and Packing material?	You Y	No ()
All Bottles Scaled?	Yes ()	No ()
Any Bottles Broken?	Yes ()	No (V)
Labels in good condition?	Yes ()	No ()
Labels agree with chain of custody?	Yal)	$No(e^{-\epsilon})$
Correct Containers Used?	1 /27	No(-1)
Preserved Property?	Yell	$N\delta < 1$
Sufficient Sample?	120(1)	No ()
Comments:		

Job # F5006

Accutest Laboratories Southeast Case Narrative

3) Metals Conformance / Non-conformance Summary			
Blank level below reporting limits? MP2132, MP2130, MP213	33 Yes (V)	No ()	
If no, list analytes above reporting limits:			_
Spike blank (LCS) data within acceptable Limits?MP2132, MF213c	U MP2133	No ()	
If no, list analytes outside of acceptable limits. Refer to QC summary for ac		·	-
Matrix spike data within acceptable limits?	Yεs ()	No (4)	_
If no, list analytes outside of acceptable limits. Refer to QC summary for ac Sec packs 54-58 for details	dditional Comments:	Al, So, Ca, E, Min	'Mg K, Ag, Ne
Matrix duplicate data within acceptable limits?	Yes ()	No (1)	
If no, list analytes outside of acceptable limits. Refer to QC summary for ac	dditional Comments:	Sb	_
Samples prepared and analyzed within holding time?	Y 05 (1)	No ()	_
If holding times were not met, list analytes where holding times were exceed	eded and explain:		-
All analytical criteria met (calibration, CCV, ICV, CCB, etc.)?	Yes (V)	No ()	
If not met, list effected samples and analytes:			-
Comments:			-

Login Number: F5006 Account: ITPAMONR - IT Corporation Project: ITPAMONRIS97 - Bainbridge

File ID: IR1008M1.ASC QC Limits: result < RDL

Date Analyzed: 10/08/99 Run ID: MA1563

Methods: SW846 6010A units: ug/l

ICB CCB ССВ CCB RDL IDL final final Metal raw raw final raw raw final 30 Aluminum 200 Antimony 60 2.39 anr 10 Arsenic 3.4 anr Barium 200 .39 anr Beryllium 5.0 .36 anr Cadmium 4.0 .33 anr Calcium 5000 19.5 anr Chromium 10 .637 anr Cobalt 50 .797 Copper anr 100 32 Iron anr Lead 100 1.59 -4.0 <100B <100B -6.0 <100B -1.8 <1008 5000 17.6 Magnesium anr Manganese 15 .16 anr Molybdenum 50 . 68 anr 40 1 anr Potassium 5000 anr Selenium 100 2 anr Silver 10 . 96 anr Sodium 5000 153 anr Thallium 10 2.69 anr Tin 50 2.2 anr Vanadium 50 .717 anr Zinc 20 .83 anr

(*) Outside of QC limits (anr) Analyte not requested

Login Number: F5006 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1008M1.ASC

Date Analyzed: 10/08/99 Run ID: MA1583 Methods: SW846 6010A Units: ug/l

QC Limits: re	esult < R	DL		Run ID: MAI	583 Units:	ug/1	
Metal	RDL.	IDL	CCB	CCB final raw	CCB final raw	CCB final raw	final
Aluminum	200	30	anr			····	
Antimony	60	2.39	anr				
Arsenic	10	3.4	anr	4,7	4 - 4 - 6		
Barium	200	. 39	anr	. •			
Beryllium	5.0	.36	anr				
Cadmium	4.0	.33	anr				
Calcium	5000	19.5	anr				
Chromium	10	. 637	anr			5.	
Cobalt	50	.797	anr				
Copper	25	.747	anr				
Iron	100	32	anr				
Lead	100	1.59	-4.3	<100B -5.0	<100B -4.9	<100B -5.8	<100B
Magnesium	5000	17.6	anr		1		
Manganese	15	.16	anr				
Molybdenum	50	. 68	anr				
Nickel	40	1	anr			7/40 - 1/4 (1993)	
Potassium	5000	28.2	anr			14 4 5 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Selenium	100	2	anr				
Silver	10	. 96	anr				
Sodium	5000	153	anr				
Thallium	10	2.69	anr				

50

20

2.2

.717

.83

anr

anr

Tin

Zinc

Vanadium

^(*) Outside of QC limits (anr) Analyte not requested

Login Number: F5006 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1008M1.ASC QC Limits: result < RDL Date Analyzed: 10/08/99 Run TD: MA1583

Methods: SW846 6010A Unite, ug/1

OC DIMITES. I	.5411 4 14				TITE NOATS	es chitte ag	-
Metal	RDL	îDL	CCB raw	final	CCB raw	final	
Aluminum	200	30	anr				
Antimony	60	2.39	anr		Ĺ		
Arsenic	10	3.4	anr	: i.i.			
Barium	200	.39	anr				
eryllium	5.0	.36	anr	eg ⁴			
Cadmium	4.0	.33	anr			unio Alemania Alemania	
Calcium	5000	19.5	anr				
nromium	10	. 637	anr				
Cobalt	50	.797	anr				
Copper	25	.747	anr				
iron	100	32	anr				
ead	100	1.59	-4.4	<500	-5.5	<100B	
agnesium	5000	17.6	anr				
anganese	15	.16	anr		:		
olybdenum	50	. 68	anr				
ickel	40	1	anr				
otassium	5000	28.2	anr				
elenium	100	2	anr				
Silver	10	.96	anr				
Sodium	5000	153	anr				
hallium	10	2.69	anr				
in	50	2.2	anr				
anadium	50	. 717	anr				
line	20	.83	anr				

(*) Outside of QC limits (anr) Analyte not requested

Login Number: F5006 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1012M1.ASC QC Limits: result < RDL

Date Analyzed: 10/12/99
Run ID: MAISSS

Methods: \$W846 6010A Unite: ug/1

QC 11.11.103. 1.							-	~3/ ~		
Metal	RDL	IDL	ICB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	30	23.4	<200	23.7	<200	29.4	<200	56.1	<200B
Antimony	60	2.39	4.7	<60.0B	1.9	<60.0	3 . 4	<60.0B	5.3	<60.0B
Arsenic	10	3.4	0.20	<10.0	0.10	<10.0	-1.9	<10.0	0.80	<10.0
Barium	200	. 39	1.0	<200B	1.9	<200B	1.7	<200B	1.2	<200B
Beryllium	5.0	, 36	1.4	<5.0B	1.5	<5.0B	1.2	<5.0B	1.7	<5.0B
Cadmium	4.0	.33	1.4	<4.0B	1.4	<4.0B	1.0	<4.0B	1.1	<4.0B
Calcium	5000	19.5	19.0	<5000	21.1	<5000B	25.0	<5000B	17.7	<5000
Clitoufum	10	. 637	0.90	<10.0B	1.0	<10.0B	0.70	<10.0B	1.0	<10.0B
Cobalt	50	.797	0.80	<50.0B	1.0	<50.0B	0.30	<50.0	1.2	<50.0B
Copper	25	.747	0.1	و 25 م	-0.30	√25.0	-0.50	<25.0	0.60	<25 U
Iron	100	32	17.4	<100	18.6	<100	15.9	<100	44.2	<100B
Lead	100	1.59	2.2	<100B	3.3	<100B	2.6	<100B	2.7	<100B
Magnesium	5000	17.6	20.9	<5000B	21.3	<5000B	27.1	<50008	22.1	<5000B
Manganese	15	16	1.0	<15.0B	1.1	<15.0B	0.70	<15.08	1.2	<15.0B
Molybdenum	50	. 68	anr					131 k 241 J	(
Nickel	40	1	1.3	<40.0B	2.0	<40.0B	1.1	<40.0B	2.2	<40.0B
Potassium	5000	28.2	32.4	<5000B	32.3	<5000B	40.0	<5000B	53.1	<5000B
Selenium	100	2	-0.70	<100	3.0	<100B	-0.20	<100	1.6	<100
Silver	10	. 96	0.70	<10.0	0.30	<10.0	0.30	<10.0	0.90	≥10.0°
Sodium	5000	153	38.3	<5000	114	<5000	78.9	<5000	143	<5000
Thallium	10	2.69	6.7	<10.0B	3.0	<10.0B	7.5	<10.0B	4.4	<10.0B
Tin	50	2.2	anr					n ta fa. Vä		
Vanadium	50	.717	1.7	<50 0B	1.5	<50.0B	0.90	<50.0B	1.7	<50.0B
Zinc	20	.93	1.1	<20.0b	1.1	<20.0B	0.40	<20.0	0.70	<20.0

(*) Outside of QC limits (anr) Analyte not requested

Login Number: F5006 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1012M1.ASC QC Limits: result < RDL Date Analyzed: 10/12/99 Run ID: MA1588

Methods: SW846 6010A

Units: ug/l

Metal	RDL	IDL	CCB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	30	20.6	<200	41.7	<200B	51.3	<200	58.4	<2008
Antimony	60	2.39	2.3	<60.0	1.9	<60.0	. 3.3	<60	4.6	<60.0B
Arsenic	10	3.4	0.40	<10.0	-1.6	<10.0	2.5	<10	0.60	<10.0
Barium	200	.39	0.70	<200B	1.3	<200B	1.8	<200	1.5	<200B
Beryllium	5.0	. 36	1.5	<5.0B	2.2	<5.0B	2.9	<5.0	2.8	<5.0B
Cadmium	4.0	. 33	0.60	<4.0B	1.0	<4.0B	1.6	<4.0	1.3	<4.0B
Calcium	5000	19.5	7.0	<5000	28.2	<5000B	29.2	<5000	39.9	<5000B
Chromium	10	- 637	0.40	<10.0	0.90	<10.05	1.4	<10	1.1	-10.0D
Cobalt	50	.797	0.40	<50.0	0.80	<50.0B	1.2	<50	1.1	<50.0B
Copper	25	.747	-2.1	<25.0B	-2.5	<25.0B	-2.2	<25	-2.6	<25.0B
Iron	100	32	9.6	<100	32.5	<100B	40.6	<100	46.8	<100B
Lead	100	1.59	2.1	<100B	1.6	<100B	. 3.3	<100	2.1	<100B
Magnesium	5000	17.6	11.2	<5000	22.2	<5000B	30.3	<5000	25.8	<5000B
Manganese	15 .	.16	0.50	<15.0B	1.7	<15.03	1.6	<15	1.6	<15.0B
Molybdenum	50	.68	anr		:	1 2 37				
Nickel	40	1	0.20	<40.0	1.4	<40.0B	1.4	<40	2.0	<40.0B
Potassium	5000	28.2	12.3	<5000	28.6	<5000B	33.2	<5000	23.6	<5000
Selenium	100	2	-2.0	<100B	1.6	<100	2.4	<100	0.90	<100
Silver	10	. 96	1.2	<10.0B	1.4	<10.0B	1.6	<10	1.4	<10.0B
Sodium	5000	153	18.7	<5000	-20.2	<5000	153	<5000	133	<5000
Thallium	10	2.69	4.6	<10.0B	4.6	<10.0B	8.3	<10	5.0	<10.03
Tin	50	2.2	anr							
Vanadium	50	.717	0.90	<50.0B	1.2	<50.0B	1.7	<50	1.5	<50.0B
Zinc	20	.83	0.10	<20.0	0.60	<20.0	1.0	<20	0.60	<20.0

^(*) Outside of QC limits (anr) Analyte not requested

Login Number: F5006
Account: TTPAMONF - IT Corporation
Project: ITPAMONR1597 - Bainbridge

File ID: IR1012M1.ASC QC Limits: result < RDL

Date Analyzed: 10/12/99 Run ID: MA1588

Methods: SW846 6010A

Units: ug/l

				10: 12:200	
Metal	RDL	IDL	CCB raw	final	
Aluminum	200	30	62.7	<200B	
Antimony	60	2.39	4.2	<60.0B	
Arsenic	10	3.4	1.7	<10.0	
Barium	200	.39	1.6	<200B	
Beryllium	5.0	.36	2.9	<5.0B	
Cadmium	4.0	.33	1.3	<4.0B	
Calcium	5000	19.5	140	<5000B	
Chromium	10	. 637	1.0	<10.0P	
Cobalt	50	.797	1.1	<50.0B	
Copper	25	.747	-1.6	<25.0B	
Iron	100	32	46.0	<100B	
Lead	100	1.59	2.7	<100B	
Magnesium	5000	17.6	28.3	<5000B	
Manganese	15 .	.16	1.8	<15.0B	
Molybdenum	50	.68	anr		
Nickel	40	1	3.1	<40.0B	
Potassium	5000	28.2	75.9	<50008	
Selenium	100	2	1.0	<100	
Silver	10	. 96	2.3	<10.03	
Sodium	5000	153	353	<5000B	
Thallium	10	2.69	5.9	<10.0B	
Tin	50	2.2	anr		
Vanadium	50	.717	1.7	<50.0B	3
Zinc	20	.83	0.90	<20.0B	

^(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F5006 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2132 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/07/99

10/07/99

								10,0,,55	
Metal	F5006-4 Original	DUP	RPD	QC Limits	F5006-4 Original	MS	Spikelot MPFLICP		QC Limits
Aluminum	14400	14500	0.9	0-20	14400	21200	3145.06	218.3(b)	80-120
Antimony	0.97	1.4	32.7 (a)	0-20	0.97	59.6	108.45	54.0N	80-120
Arsenic	3.7	3.9	5.3	0-28	3.7	329	433.8	75.0	72-110
Barium	52.0	52.6	1.0	0-14	52.0	418	433.8	84.4	64-116
Beryllium	0.61	0.62	1.5	0-20	0.61	9.7	10.85	83.9	80-120
Cadmium	0	0	NC	0-16	0	8.8	10.85	81.2	64-120
Calcium	710	717	1.0	0-20	7 10	808	2711.26	3 - 631	80 120
Chromium	15.3	15.4	0.8	0-33	15.3	56.2	43.38	94.3	66-119
Cobalt	7.0	7.1	1.2	0-20	7.0	95.0	108.45	81.1	80-120
Copper	6.1	6.2	1.7	0-39	6.1	51.5	54.23	83.7	65-124
Iron	13000	13200	0.9	0-20	13000	15100	2928.16	71.8 (b)	80-120
Lead	70.5	71.1	0.8	0-44	70.5	152	108.45	75.4	60-127
Magnesium	792	801	1.1	0-20	792	1130	2711.26	12.6%	80-120
Manganese	301	303	1.0	0-20	301	465	108.45	151.5N	80-120
Molybdenum	anr								
Nickel	6.6	6.7	1.8	0-30	6.6	99.1	108.45	85.3	71-119
Potassium	567	566	0.2	0-20	567	912	2711.26	12.7N	80-120
Selenium	0.0	0	NC	0-28	0.0	356	433.8	82.1	65-115
Silver	0.0	0.0	NC	0-21	0.0	6.6	10.85	61.2N	63-123
Sodium	290	292	0.6	0-20	290	262	2711.26	-1.0N	80-120
Thallium	0.00	0.00	NC	0-20	0.00	348	433.8	80.2	80-120
Tin	anr								•
Vanadium	24.5	24.7	1 0	0-20	24.5	111	108.45	82.7	80-129
Zinc	23.2	23.8	2.8	0~31	23.2	111	108.45	33.9	69-120

Associated samples MP2132: F5006-4, F5006-5, F5006-6, F5006-7, F5006-3

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

⁽N) Matrix Spike Rec. outside of QC limits

⁽anr) Analyte not requested

⁽a) RPD acceptable due to low duplicate and sample concentrations.

⁽b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F5006 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2132 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/07/99

ricp bacc.				10/0///	
Metal	F5006-4 Original	MSD	Spikelot MPFLICP		QC Limits
Aluminum	14400	22100	3273.43	236.3(a)	80-120
Antimony	0.97	62.4	112.88	54.4N	80-120
Arsenic	3.7	343	451.51	75.1	72-110
Barium	52.0	435	451.51	84.9	64-116
Beryllium	0.61	10.1	11.29	84.2	80-120
Cadmium	0	9.2	11.29	81.5	64-120
Calcium	710	841	2821 93	4 KN	80-120
Chromium	15.3	58.5	45.15	95.7	66-119
Cobalt	7.0	98.9	112.88	81.4	80-120
Copper	6.1	53.7	56.44	84.3	65-124
Iron	13000	15800	3047.68	89.6	80-120
Lead	70.5	159	112.88	78.0	60-127
Magnesium	792	1180	2821.93	13.8N	80-120
Manganese	301	484	112.88	162.7N	80-120
Molybdenum					
Nickel	6.6	103	112.88	85.7	71-119
Potassium	567	953	2821.93	13.7N	80-120
Selenium	0.0	372	451.51	82.3	65-115
Silver	0.0	6.8	11.29	60.3N	63-123
Sodium	290	271	2821.93	-0.7N	80-120
Thallium	0.00	364	451.51	80.5	80-120
Tin					b
Vanadium	24.5	119	112.88	83.7	80-120
Zinc	23.2	116	112.88	82.0	69-120

Associated samples MP2132: F5006-4, F5006-5, F5006-6, F5006-7, F5006-8

Results < IDL are shown as zero for calculation purposes

^(*) Outside of QC limits

⁽N) Matrix Spike Rec. outside of QC limits

⁽anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

•

OVERVIEW

Five (5) soil samples were analyzed for lead by EPA SW-846 Method 6010 and five (5) soil samples were analyzed for TAL metals by Methods 6010/7471. No site-specific Quality Control samples were analyzed. Accutest, located in Orlando, FL, performed the analyses.

SUMMARY

These samples were analyzed successfully.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

- The initial, continuing and/or method blanks contained all metals except arsenic, mercury and zinc. Sample results with concentrations less than five (5) times the blank concentration are qualified as blank contaminated (B).
- The metals antimony and manganese were recovered low, and calcium, magnesium, potassium and sodium were recovered very low (<30%) in the matrix spike and matrix spike duplicate samples associated with samples -25C, -291C, -60C, -324C1, -320C, -338C1, -558C1 and -80C. The positive results for these samples will be qualified biased low (L).
- The lead-only serial dilution sample associated with samples -411C and -374C was recovered high. The TAL metals serial dilution sample associated with samples -25C, -291C, -60C, -324C1, -320C, -338C1, -558C1 and -80C had an elevated recovery of calcium, chromium, cobalt, nickel, potassium and zinc. The results for these analytes should be qualified estimated (J).

NOTES

There are no notes associated with this data validation report.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification

(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation

(Can be used for both positive results and sample quantitation limits)

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be hiased high. Actual value is expected to be lower.
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

Other Codes

- Q = No analytical result.
- NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Site: FNTC - Bainbridge - Small Arms Ranges Confirmation Results

Lab: Accutest

Reviewer: Michael J. Lacy, Ph.D.

Date: 21 October 1999 Report Number: F5017

Sample I.D.	204-2	iC 5	204-29	1C	204-6	OC.	204-32	4C1	204-32	20C	204-33	BC1	204-55	BC1	204-8	5	204-41	1C	204-37	'4C
Matrix	Soil		Soil		Soi	1	Soil		Soil	İ	Soil		Soil		Soil		Soi	<u> </u>	Soil	
Units	mg/k	g	mg/k	g	mg/k	g	mg/k	g	mg/k	g	mg/k	g	mg/k	g	mg/k	g	mg/k	g	mg/k	
Date Sampled	9/28/19	99	9/28/19	999	9/28/19	999	10/4/19	999	9/28/19	999	10/4/19	999	10/4/19	999	9/28/19	999	9/28/19	999	9/28/19	
Time Sampled	1430)	1442	2	145	1	1406	3	1500	0	1430		1433	3	105		1100	_	0948	
% Moisture	11.8		15.5		15.2		0.0		15.9		4.7		1.4		13.2		15.0		14.8	
pH	N/A		N/A		N/A		N/A		N/A	\	N/A		N/A		N/A		N/A		N/A	
Dilution Factor	1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0		1.0	
	Result	g	Result	8	Result	VQ	Result	Ø	Result	VQ	Result	VQ	Result	g	Result	VQ	Result	VQ		٧Q
Lead	96.3				20.3					<u> </u>	19.9						28.4	J	87.3	J
							1222						03000			,				
Aluminum			15800				16700		17600	100.4			30000		39000		***			
Antimony			1.2	JBL			0.58	JBL	0.57	JBL			1.4	JBL	1.5	JBL				
Arsenic			3.4	В			2.7	В	2.9	В		<u> </u>	3.4	В	2.7	В	-			
Barium			67.1			I ├── —	83.5	L	91.8			.	109		116					
Beryllium			0.97	В			1.1	В	1.40	В			1.1	В	1.2	В	<u> </u>	ļ		
Cadmium			<0.04	U			<0.D3	U	<0.04	U			<0.03	U	<0.04	U				
Calcium			862	JL			744	JL	655	JL		L	1240	JL	1270	JL.				
Chromium		L	12.5	J		i	9.0	J	10.1	J			20.5	J	16.1	J		L		
Cobalt			8.1	JB	-		8.2	JB	8.1	JB		<u> </u>	15.2	J	12.3	J				
Copper			8.8				8.5		11.7				16.4		14.3					
Iron			17000				15600		15000			L	33900		32600			ļ <u>-</u>		
Lead			68.1				21.0		28.2	.			9.6	J	21.9	J		<u> </u>		
Magnesium			1680	L			1690	L	1550	L.			2780	L	3150	L				
Manganese			389	L	<u> </u>		559	L	701	L			284	L	303	L				
Mercury			0.04	J			0.04	J	0.01	J		L	0.02	J	0.01	J		L		
Nickel			6.7	JB	_		5.1	JB	6.0	JB	_		9.9	JB	9.2	JB		ļ		
Potassium			1130	3			966	JL.	980	JL			1470	JL	2100	JL				
Selenium			<0.24	U			<020	U	<0.24	U			<0.21	U	<0.23	U		L		
Silver			<0.12	٦			<0.09	U	<0.11	U		L	<0.1	U	<0.11	U		ļ		
Sodium			196	JBL			84.8	JBL	162	JBL		<u> </u>	147	JBL	118	JBL	-	ļ		ļ
Thallium			<0.32	>	-		<0.26	U	<0.32	U		<u> </u>	≺0.28	U	<0.30	U		<u> </u>		
Vanadium		<u> </u>	38.0		-		33.8		29.2				77.2		74.8					
Zinc			33.8	j		L	27.9	J	29.8	J		<u> </u>	27.9	J	29.6	J				

VQ - Validation Qualifier

ATTACHMENT C

Laboratory Reported Results



Page 1 of 1

Client Sample ID: 204-25C Lab Sample ID:

Matrix:

F5017-3 SO - Soil Date Sampled: 09/28/99

Date Received: 10/06/99 Percent Solids: 88.2

Project:

Lead

Bainbridge

Metals Analysis

Result Analyte

96.3

RDL Units DF

mg/kg 1

11.5

10/07/99 10/08/99 JK

Analyzed By

Prep

SW846 6010A

Method

RDL = Reported Detection Limit

 $(\text{prop})\,3$



Page 1 of 1

Client Sample ID: 204-291C Lab Sample ID:

Matrix:

F5017-4 SO - Soil **Date Sampled:** 09/28/99 **Date Received:** 10/06/99

Percent Solids: 84.5

Project:

Bainbridge

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	Ву	Method
Aluminum	16800	23.9	mg/kg	1	10/07/99	10/08/99	JК	SW846 6010A
Antimony	1.2 B	7.2	mg/kg	1	10/07/99	10/08/99	JК	SW846 6010A
Arsenic	3.4	1.2	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Barium	67.1	23.9	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Beryllium	0.97	0.60	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Cadmium	0.04 U	0.48	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Calcium	862	598	mg/kg	1	10/07/99	10/08/99	JΚ	SW846 6010A
Chromium	12.5	1.2	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Cobalt	8.1	6.0	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Copper	8.8	3.0	mg/kg	1	10/07/99	10/08/99	JΚ	SW846 6010A
Iron	17000	12.0	mg/kg	1	10/07/99	10/08/99	JΚ	SW846 6010A
Lead	68.1	12.0	mg/kg	1	10/07/99	10/08/99	JК	SW846 6010A
Magnesium	1680	598	mg/kg	1	10/07/99	10/08/99	JК	SW846 6010A
Manganese	389	1.8	mg/kg	1	10/07/99	10/08/99	JК	SW846 6010A
Mercury	0.04 B	0.20	mg/kg	1	10/07/99	10/08/99	SJL	SW846 7471A
Nickel	6.7	4.8	mg/kg	1	10/07/99	10/08/99	JK	\$W846 6010A
Potassium	1130	598	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Selenium	0.24 U	12.0	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Silver	0.12 U	1.2	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Sodium	196 B	598	mg/kg	1	10/07/99	10/08/99	JК	SW846 6010A
Thallium	0.32 U	1.2	mg/kg	1	10/07/99	10/08/99	JК	SW846 6010A
Vanadium	38.0	6.0	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Zinc	33.8	2.4	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A



Page 1 of 1

Client Sample ID: 204-60C Lab Sample ID:

F5017-5 SO - Soil **Date Sampled:** 09/28/99

Date Received: 10/06/99

Project:

Matrix:

Bainhridge

Percent Solids: 84.8

Metals Analysis

Result RDL Analyte Units DF Prep Analyzed By Method

mg/kg 1 10/07/99 10/08/99 јк 11.8 Lead 20.3 SW846 6010A



Page 1 of 1

Client Sample ID: 204-324C1 Lab Sample ID:

F5017-6

SO - Soil

Date Sampled: 10/04/99 Date Received: 10/06/99

Percent Solids: 100.0

Project:

Metals Analysis

Matrix:

Bainbridge

Analyte	Result	RDL	Units	DF	Prep	Analyzed By	Method
Aluminum	16700	19.4	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Antimony	0.58 B	5.8	mg/kg	1	10/07/99	10/08/99 JK	SW846 6010A
Arsenic	2.7	0.97	mg/kg	1	10/07/99	10/08/99 јк	SW846 6010A
Barium	83.5	19.4	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Beryllium	1.1	0,49	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Cadmium	0.03 U	0.39	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Calcium	744	485	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Chromium	9.0	0.97	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Cobalt	8.2	4.9	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Copper	8.5	2.4	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Iron	15600	9.7	mg/kg	1	10/07/99	10/08/99 лк	\$W846 6010A
Lead	21.0	9.7	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Magnesium	1690	485	mg/kg	1	10/07/99	10/08/ 9 9 лк	SW846 6010A
Manganese	559	1.5	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Mercury	0.04 B	0.16	mg/kg	1	10/07/99	10/08/99 SJL	SW846 7471A
Nickel	5.1	3.9	mg/kg	1	10/07/99	10/08/99 лк	\$W846 6010A
Potassium	966	485	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Selenium	0.20 U	9.7	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Silver	0.09 U	0.97	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Sodium	84.8 B	485	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Thallium	0.26 U	0.97	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Vanadium	33.8	4.9	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Zinc	27.9	1.9	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A



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Client Sample ID: 204-320C Lab Sample ID:

F5017 7

Matrix:

SO - Soil

Date Sampled: 09/28/99 **Date Received:** 10/06/99

Percent Solids: 84.1

Project:

Bainbridge

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed	Ву	Method
Aluminum	17600	23.8	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Antimony	0.57 B	7.1	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Arsenic	2.9	1.2	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Barium	91.8	23.8	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Beryllium	1.4	0.59	mg/kg	1	10/07/99	10/08/99	JΚ	SW846 6010A
Cadmium	0.04 U	0.48	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Calcium	655	595	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Chromium	10.1	1.2	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Cobalt	8.1	5.9	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Copper	11.7	3.0	mg/kg	1	10/07/99	10/08/99	JК	SW846 6010A
Iron	15000	11.9	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Lead	28.2	11.9	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Magnesium	1550	595	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Manganese	701	1.8	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Mercury	0.01 B	0.21	mg/kg	1	10/07/99	10/08/99	SIL	SW846 7471A
Nickel	6.0	4.8	mg/kg	1	10/07/99	10/08/99	JК	SW846 6010A
Potassium	980	595	mg/kg	1	10/07/99	10/08/99	JК	SW846 6010A
Selenium	0.24 U	11.9	mg/kg	i	10/07/99	10/08/99	JK	SW846 6010A
Silver	0.11 U	1.2	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Sodium	162 B	595	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A
Thallium	0.32 U	1.2	mg/kg	1	10/07/99	10/08/99	JΚ	SW846 6010A
Vanadium	29.2	5.9	mg/kg	1	10/07/99	10/08/99	JК	SW846 6010A
Zinc	29.8	2.4	mg/kg	1	10/07/99	10/08/99	JK	SW846 6010A



Page 1 of 1

Client Sample ID: 204-338C1

Lab Sample ID: Matrix:

F5017-8

Date Sampled: 10/04/99

Date Received: 10/06/99 SO - Soil

Percent Solids: 95.3

Project:

Bainbridge

Metals Analysis

RDL Analyzed By Method Analyte Result Units DF Prep

19.9 10.1 mg/kg 1 10/07/99 10/08/99 JK SW846 6010A Lead



Page 1 of 1

Client Sample ID: 204-558C1 Lab Sample ID:

F5017-9

Matrix:

SO - Soil

Date Sampled: 10/04/99

Date Received: 10/06/99

Percent Solids: 98.6

Project:

Bainbridge

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed By	Method
Aluminum	30000	20.7	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Antimony	1.4 B	6.2	mg/kg	1	10/07/99	10/08/99 JK	SW846 6010A
Arsenic	3.4	1.0	mg/kg	1	10/07/99	10/08/99 JK	SW846 6010A
Barium	109	20.7	mg/kg	1	10/07/99	10/08/99 јк	SW846 6010A
Beryllium	1.1	0.52	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Cadmium	0.03 U	0.41	mg/kg	1	10/07/99	10/08/99 JK	SW846 6010A
Calcium	1240	517	mg/kg	1	10/07/99	10/08/99 јк	SW846 6010A
Chromium	20.5	1.0	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Cobalt	15.2	5.2	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Copper	16.4	2.6	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Iron	33900	10.3	mg/kg	1	10/07/99	10/08/99 JK	SW846 6010A
Lead	9.6 B	10.3	mg/kg	1	10/07/99	10/08/99 JK	SW846 6010A
Magnesium	2780	517	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Manganese	284	1.6	mg/kg	1	10/07/99	10/08/99 JK	SW846 6010A
Mercury	0.02 B	0.17	mg/kg	1	10/07/99	10/08/99 SJL	SW846 7471A
Nickel	9.9	4.1	mg/kg	1	10/07/99	10/08/99 јк	SW846 6010A
Potassium	1470	517	mg/kg	I	10/07/99	10/08/99 JK	SW846 6010A
Selenium	0.21 U	10.3	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Silver	0.1 U	1.0	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Sodium	147 B	517	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Thallium	0.28 U	1.0	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Vanadium	77.2	5.2	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Zinc	27.9	2.1	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A



Page 1 of 1

Client Sample ID: 204-80C Lab Sample ID:

F5017-10 SO - Soil

Date Sampled: 09/28/99 Date Received: 10/06/99

Project:

Matrix:

Bainbridge

Percent Solids: 86.8

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed By	Method
Aluminum	39000	22.4	mg/kg	1	10/07/99	10/08/99 јк	SW846 6010A
Antimony	1.5 B	6.7	mg/kg	1	10/07/99	10/08/99 јк	SW846 6010A
Arsenic	2.7	1.1	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Barium	116	22.4	mg/kg	1	10/07/99	10/08/99 јк	SW846 6010A
Beryllium	1.2	0.56	mg/kg	1	10/07/99	10/08/99 JK	SW846 6010A
Cadmium	0.04 U	0.45	mg/kg	1	10/07/99	10/08/99 јк	SW846 6010A
Calcium	1270	559	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Chromium	16.1	1.1	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Cobalt	12.3	5.6	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Copper	14.3	2.8	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Iron	32600	11.2	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Lead	21.9	11.2	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Magnesium	3150	559	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Manganese	303	1.7	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Mercury	0.01 B	0.19	mg/kg	1	10/07/99	10/08/99 stl	SW846 7471A
Nickel	9.2	4.5	mg/kg	i	10/07/99	10/08/99 лк	SW846 6010A
Potassium	2100	559	mg/kg	i	10/07/99	10/08/99 JK	SW846 6010A
Selenium	0.23 U	11.2	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Silver	0.11 U	1.1	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Sodium	118 B	559	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Thallium	0.30 U	1.1	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Vanadium	74.8	5.6	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A
Zinc	29.6	2.2	mg/kg	1	10/07/99	10/08/99 лк	SW846 6010A



Page 1 of 1

Client Sample ID: 204-411C Lab Sample ID: F5017-11

Matrix:

SO - Soil

Date Sampled: 09/28/99

Date Received: 10/06/99

Percent Solids: 85.0

Project:

Bainbridge

Metals Analysis

Result RDL Analyte Units DF Prep Analyzed By Method

mg/kg 1 Lead 28.4 11.9 10/08/99 10/08/99 JK SW846 6010A



Page 1 of 1

Client Sample ID: 204-374C Lab Sample ID:

F5017-12

SO - Soil

Date Sampled: 09/28/99

Date Received: 10/06/99 Percent Solids: 85.2

Project:

Lead

Matrix:

Bainbridge

Metals Analysis

Analyte Result

87.3

RDL

10.4

Units DF Ртер

mg/kg 1

10/08/99 10/08/99 JK

Analyzed By

SW846 6010A

Method

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation



ANALYSIS . JUEST AND CHAIN OF CUSTODY RECORD*

Reference Document J. 550 971 Page 1 of 2

Sample Tam Members? Treater (Eding or Lab Destination & Accurate Lab. Profit Center No. 3 Project Manager L. Stewns Project Contact Phone (2) Project Manager L. Stewns Project Ma							,		(⁻)
Lab Destination 8 Account to the project Control (Ching or Profit Center No. 3 Account to the project Control (Control (Con	Project Name/	No. 1 Bunkridge 7	148939 Samp	les Shipme	ent Date	7 10/	5/99 Bill to	5 IT corp	4
Project Nanager 1, Stewns Project Contact/Phone 12 Prick Trease Report to: 10 Project Stewns Project Contact/Phone 12 Prick Trease Report to: 10 Prick Treas	Somple Taam Memb	page 2 Tracker / Kli	4 2 4 40	l ah De	etination	8 Acc	test lub		
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Sample 14 Sample 15 Description Type Data/Time 16 Container 17 Sample 14 Description Type Data/Time 16 Collisted Type Volume Pre-19 Program Requested feeting 20 Condition on 21 Recept Rec	Purchase Order	No. 6 798939-0	07 (Carrier/W	aybill No.	13Fed Ex	790306993782	+ 1 cosp	1-31vd
Number	Required Report D	Date 11 3 & 449 5		ONE	CONT	AINER	PER LINE		
304-35 C			Date/Time ¹⁶ Collected	Container ¹⁷ Type	⁷ Sample ¹⁸ Volume	Pre- ¹⁹ servative	Program	Receipt	
204-368C 614 204 (6-14 P) 0927 203 204-25C 611 30 514 91 1130 203 204-291C 614 204 614 11 1130 203 704 14 141 1130 204 204 614 14 141 403 704 141	204-3501	Comp 3 pt Surl Bld 2 204 Grid P16	1354	1-803	403	4°C	Totallead 6010	F5017-1	
204-25C Alizard Grid P11 1430 203 Total lead 6010 1451 1442 1403 Total lead 6010 -5 1442 1451 1	204-368C	Bldg 204 Grid Pi	0927		203	1		-2	
204 - 291 C Bild 24 Grid P15 1942 403 TAL Metids - 4 M5/M5D 204 - 60 C Bild 204 Grid P15 1942 403 Total lead 6010 - 5 204 - 324 Cl Bild 204 Grid P20 1406 203 Total lead 6010 - 5 204 - 320 C Bild 204 Grid P20 1406 203 Total lead 6010 - 7 204 - 320 C Bild 204 Grid P20 1500 203 Total lead 6010 - 7 204 - 355 Cl Bild 204 Grid P20 1500 203 Total lead 6010 - 7 204 - 355 Cl Bild 204 Grid P20 1430 203 Total lead 6010 - 8 Special Instructions: 23 Z - mail results to Denethy Small Possible Hazard Identification: 24 Lead Non-hazard Flammable Skin mitant Poison B Unknown Sample Disposal: 25 Norma Rish Skin mitant Poison B Unknown Return to Cient Disposal by Lab Archive (mos Turnaround Time Required: 26 Norma Rish Skin mitant Poison B Unknown Received by 28 Disposal by Lab Archive (mos Turnaround Time Required: 27 1. Relinquished by 28 Dich Treater Date: 10/5/199 1. Received by 28 Date: 10/6/99 Time: 1730 Signature/Afficiation Date: 10/6/99 Time: 10/6/99	204-25C	Bldg209 Grid PII			203			- 3	
204-60C Bild 204 Gnd P18 1451 204-324 Cl Bild 204 Gnd P20 1406 203 TAL Metals -6 204-320 C Gnp 3pt Soil 9(28/99 203 TAL Metals -7 204-320 C Gnp 3pt Soil 9(28/99 203 TAL Metals -7 204-358 Cl Gnp 3pt Soil 16/4/99 203 TAL Metals -7 204-358 Cl Gnp 3pt Soil 16/4/99 203 TAL Metals -7 Special Instructions: 23 2-mail results to Derethy Small Possible Hazard Identification: 24 Lead Non-hazard Flammable Skin irritant Poison B Unknown Sample Disposal: 25 Return to Cient' Disposal by Lab Archive (mos Turnaround Time Required: 26 Normal Rush Poject Specific (specify): Pany UFESC Level C 1. Relinquished by 28 Dut Treater Data: 10/5/99 1. Received by 29 Date: 17:30 Signature/Affiliation Signature/Affiliation Signature/Affiliation Date: 17:30 Signature/Affiliation Signature/Affiliation Date: 17:30 Signature/Affiliation	204-2910	Bldg 204 Grid PIST	1442		403		TAL Metids	<u>- 4</u>	MS/MSD
204-324C1 Bildy 209 Grid P20 1406 203 TAL Metals -6 204-320C Grid P3t Soil 9124199 203 Total cad 6010 -7 204-320C Grid P2t 1500 203 TAL Metals -7 204-325C1 Grid P2t 1500 203 Tal Metals -7 204-325C1 Grid P2t 1430 203 Total cad 6010 -8 Special Instructions: 23 E-mail results to Derethy Small Possible Hazard Identification: 24 Lead Non-hazard Flammable Skin mitant Poison B Unknown Security Between to Cient Disposal by Lab Archive (mos Turnaround Time Required: 26 Normal Rush Security Poison B Unknown Security Project Specific (specify): Many NFESC Level Ce (Signature/Affiliation) Disposal by 28 Dick Treater Date: 10/5/99 1. Received by 28 Dick Treater Date: 10/5/99 1. Received by 28 Dick Treater Date: 10/5/99 (Signature/Affiliation) Time: 1730 (Signature/Affiliation) Date: Time: 1730 (Signature/Affiliation) Date: Time: 1730 (Signature/Affiliation) Date: Time: 1730 (Signature/Affiliation) Date: Time: 1730 (Signature/Affiliation) Time: Time: Time: 1730 (Signature/Affiliation) Date: Time: Time: 1730 (Signature/Affiliation) Time: Time: Time: Time: 1730 (Signature/Affiliation) Time:	204-60C	B189204 Gnd P18	1451		403			-5_	
204-320 C Bild 204 Grid P21 1500 203 TAL Metals 204-325 C 1 Grid 204 Grid P22 1430 202 Total read 6010 -8 Special Instructions: 23 2-mail results to Derethy Small Possible Hazard Identification: 24 Lead Non-hazard Flammable Skin irritant Poison B Unknown Sample Disposal: 25 Return to Cient Disposal by Lab Archive (mos Turnaround Time Required: 26 Normal Rush 7 days I III Poject Specific (specify): Pary NF & Level C 1. Relinquished by 28 Dut Treater Date: 10/5/199 1. Received by 29 Date: 1730 Signature/Affiliation Date: 1730 Date: 1730 Signature/Affiliation Date: 1730 Date: 17	204-32401	Bldy 204 Grid P20	1406		203		TAL Metals		
Special Instructions: 23 & mail results to Derethy Small Possible Hazard Identification: 24 Lead Non-hazard Flammable Skin rritant Poison B Unknown Return to Cient Disposal by Lab Archive (mossible Hazard Identification) Rush Image: Im	204-320€	B124 204 Grid P21	1500	<u> </u>	203			-7	
Possible Hazard Identification: 24 Lead Non-hazard Flammable Skin rritant Poison B Unknown Return to Cient Disposal by Lab Archive (moss Turnaround Time Required: 26 Normal Rush Poison B Unknown Return to Cient Disposal by Lab Archive (moss Return to Cient Disposal by Lab Archive (moss Return to Cient Disposal by Lab Archive (moss Cient Disposal by Lab Archive (moss Cient Disposal by Lab Archive (moss Cient Disposal by Lab Archive (moss Cient Disposal by Lab Archive (moss Cient Disposal by Lab Archive (moss Cient Disposal by Lab Archive (moss Cient Disposal by Lab Archive (moss Cient Disposal by Lab Cient Disposal by Lab Archive (moss Cient Disposal by Lab Cient Disposal by Lab Archive (moss Cient Disposal by Lab Cient	204-33801	Bldg 204 Grid P22	1430		203	ļ	Total lead 6010	-8	
Possible Hazard Identification: 24 Lead Non-hazard Flammable Skin rritant Poison B Unknown Return to Cient Disposal by Lab Archive (moss Turnaround Time Required: 26 Normal Rush Poison B Unknown Return to Cient Disposal by Lab Archive (moss Return to Cient Disposal by Lab Archive (moss Return to Cient Disposal by Lab Archive (moss Cient Disposal by Lab Archive (moss Cient Disposal by Lab Archive (moss Cient Disposal by Lab Archive (moss Cient Disposal by Lab Archive (moss Cient Disposal by Lab Archive (moss Cient Disposal by Lab Archive (moss Cient Disposal by Lab Archive (moss Cient Disposal by Lab Cient Disposal by Lab Archive (moss Cient Disposal by Lab Cient Disposal by Lab Archive (moss Cient Disposal by Lab Cient	Special Instruction	ons: 23 & - mail	results to	Derot	thy Sm	ull			
Turnaround Time Required: 26 Normai Rush 1/2	Possible Hazard	Identification: 24	ead				Sample Disposal: 25 Return to Cient Dispo	osal by Lab 🌂 💮 Archive	e (mos.)
Normal Rush \(\) 3 day \(\) 1. Relinquished by \(\) 28 Dich Treater Date: \(\) 10/5/99 1. Received by \(\) 29/1 Date: \(\) 1. Received by \(\) 28/2 (Signature/Affiliation) Date: \(\) 1. Received by \(\) 29/1 Date: \(\) 1. Received by \(\) 28/2 (Signature/Affiliation) Date: \(\) 1. Received by \(\) 2. Received by \(\) 1. Recei		Peguired: 26				7			
1. Relinquished by 28 Dich Treater Date: 10/5/99 1. Received by 28/1 Date: 10/6/99 Time: 1730 (Signature/Affiliation) Date: 10/6/99 Date: 10/6/99 Date: 1730 (Signature/Affiliation) Date: 1730	Normai J Rushi	XI 374	Y 5			III.	Project Specific (specify):	Vauy NFESC Lev	vel C
2. Received by (Signature/Affiliation) 2. Received by (Signature/Affiliation) 3. Relinquished by (Signature/Affiliation) Date: 3. Received by (Signature/Affiliation) Time: Time	1. Relinquished by (Signature/Affiliation)	De Treat	Dat			1. Rece		/ Doto:	10-6-99
3. Relinquished by Signature/Affiliation) Date: 3. Received by Signature/Affiliation) Time: Signature/Affiliation) Comments: 29 Date: 5. Time:	2. Relinguished by		Dat			2. Rece (Signature/	ived by	/ Date:	
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410-5/0-5								(%00)	4.C.

	INTERNATIONAL TECHNOLOGY
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ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD (cont.)*

Reference Document No.30 559871
Page 2 of 2

· Project Name Baumbridge

Project No. 793939

Samples Shipment Date 10/5/99

			ONE	CONT	INER	PER LINE		
Sample 14 Number	Sample 15 Description/Type	Collected	Centainer 17	Sampie18 Volume	Pro-19 scrvativo	Requested Testing 20 Program	Candition on 21 Receipt	Disposal 22 Record No.
204-55801	Comp 3pt Soil	1433	1-803	~ 203	4°C	Total Lead 6010 TAL Metals	-9	
204 - 80c	Comp 3pt Sirl Bldg 204 Grid P24 Comp 3pt Sirl Billg 204 Grid P25	9/28/99		1	1	Totalead Goio TAL Metals	-10 FOR	LAB
204 - 4110	Comp 3pt Soil Bild 204 Grid P25	9/28/99		~403	}	Totallead 6010	√ USE	OMLY
204 - 374c	Comp 3 pt Soil Bldg 209 Grid PE	9/28/99		2403		Total Lead 6010	-12	h 671 FFD
							FUH	LAB
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Accutest Laboratories Southeast <u>Case Narrative</u>

3) Metals Conformance / Non-conformance Summary		
Blank level below reporting limits?	Yes (No ()
If no, list analytes above reporting limits: MP2/4/ ,2/33	·	
Spike blank (LCS) data within acceptable Limits?	Yes (a)	No ()
If no, list analytes outside of acceptable limits. Refer to QC summary for add	ditional Comments: _	
Matrix spike data within acceptable limits?	Yes ()	No (
If no, list analytes outside of acceptable limits. Refer to QC summary for add See Page 45, 46 For details	ditional Comments: _	
Matrix duplicate data within acceptable limits?	Yes ()	No (4)
If no, list analytes outside of acceptable limits. Refer to QC summary for add	ditional Comments: _	
Samples prepared and analyzed within holding time?	Yes (No ()
If holding times were not met, list analytes where holding times were exceed	led and explain:	
All analytical criteria met (calibration, CCV, ICV, CCB, etc.)? If not met, list effected samples and analytes: New Page 40	rs() for Theo	NO WY
Comments: My Dup out du te mati	ìγ.	
		

BLANK RESULTS SUMMARY Part 1 - Initial and Continuing Calibration Blanks

Login Number: F5017 ACCOUNT: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1008M1.ASC QC Limits: result < RDL Date Analyzed: 10/08/99

Methods: SW846 6010A Units: ug/l

Run ID: MA1583 Units: ug

Metal	RDL	IDL	ICB raw		CCB aw	final	CCB raw	final	CCB raw	final
Aluminum	200	30	20.2	<200 1	7 0	<200	46.9	<200B	25.8	<200
Antimony	60	2.39	5.9	<60.0B 3	3.8	<60.0B	5.8	<60.0B	4.0	<60.0B
Arsenic	10	3.4	0.50	<10.0 1	L . B	<10.0	-0.20	<10.0	-0.80	<10.0
Barium	200	.39	0.90	<200B 0	.60	<200B	1.0	<2008	1.0	<200B
Beryllium	5.0	.36	1.3	<5.0B 1	L.2	<5.0B	1.8	<5.0B	2.0	<5.0B
Cadmium	4.0	. 33	1.1	<4.0B 0	0.80	<4.0B	1.1	<4.0B	0.90	<4.0B
Calcium	5000	19.5	16.6	<5000 1	11.8	<5000	36.6	<5000B	14.4	<5000
Chromium	10	.63/	1.0	<10.0B 0	0.00	<10.0B	1.2	~10 DR	1.0	<10.0B
Cobalt	50	. 797	1.2	<50.0B 1	L.0	<50.0B	1.0	<50.0B	0.90	<50.0B
Copper	25	.747	0.60	<25.0 -	0.20	<25.0	-0.40	<25.0	-0.90	<25.0B
Iron	100	32	11.9	<100 1	15.7	<100	22.8	<100	14.5	<100
Lead	100	1.59	-4.0	<100B -	4.9	<100B	-6.0	<100B	-1.8	<100B
Magnesium	5000	17.6	17.9	<5000B 1	4.1	<5000	40.5	<5000B	19.3	<5000B
Manganese	15 .	.16	0.90	<15.0B 0	.70	<15.0B	1.0	<15.0B	0.90	<15.0B
Molybdenum	50	. 68	anr							
Nickel	40	1	1.3	<40.0B 0	0.60	<40.0	1.0	<40.0B	1.4	<40.0B
Potassium	5000	28.2	2.2	<5000 1	.4	<5000	14.1	<5000	15.1	<5000
Selenium	100	2	1.2	<100 2	2.4	<1008	3.9	<100B	4.4	<100B
Silver	10	. 96	0.30	<10,0 0	0.60	<10.0	0.40	<10.0	0.50	<10.0
Sodium	5000	153	-23.2	<5000 2	20.4	<5000	-36.0	<5000	74.0	<5000
Thallium	10	2.69	5.2	<10.0B 3	3.4	<10.0B	5.4	<10.0B	3.5	<10.0B
Tin	50	2.2	anr							
Vanadium	50	.717	1.4	<50.0B 0	.50	<50.0	1.0	<50.0B	1.0	<50.0B
Zinc	20	.83	0.70	<20.0 Q	3.30	<20.0	0.40	<20.0	0	<20.0

^(*) Outside of QC limits (anr) Analyte not requested

BLANK RESULTS SUMMARY Part 1 - Initial and Continuing Calibration Blanks

Login Number: F5017
Account: ITFAMONR: IT Corporation
Project: ITPAMONR1597 - Bainbridge

File ID: IR1008M1.ASC OC Limits: result < RDL Date Analyzed: 10/08/99

Methods: SW846 6010A

Run ID: MA1583 Units: ug/l

Metal	RDL	IDL	CCB raw	final	CCB	final	CCB raw	final	CCB raw	final
Aluminum	200	30	83.1	00B</td <td>76.2</td> <td><200B</td> <td>57.2</td> <td><200B</td> <td>56.9</td> <td><200B</td>	76.2	<200B	57.2	<200B	56.9	<200B
Antimony	60	2.39	3.4	<60.0B	2.7	<60.0B	2.3	<60.0	3.6	<60.0B
Arsenic	10	3.4	1.7	<10.0	0	<10.0	0.70	<10.0	1.1	<10.0
Barium	200	.39	1.5	<200B	1.1	<200B	1.1	<200B	1.2	<200B
Beryllium	5.0	.36	2.1	<5.0B	2.0	<5.0B	2.1	<5.08	2.3	<5.08
Cadmium	4.0	.33	0.90	<4.0B	0.70	<4.0B	0.90	<4.0B	1.0	<4.0B
Calcium	5000	19.5	16.7	<5000	13.4	<5000	104	<5000B	79.1	<5000B
Chromium	10	.637	1.1	~10.0B	1.2	<10.0B	0.80	-10 OR	1.3	<10.0B
Cobalt	50	. 797	0.90	<50.0B	0.80	<50.0	0.80	<50.0B	1.3	<50.0B
Copper	25	.747	-1.0	<25.0B	-1.3	<25.0B	-1.7	<25.0B	-1.4	<25.0B
Iron	100	32	45.7	<100B	62.2	<100B	45.4	<100B	49.8	<1008
Lead	100	1.59	-4.3	<100B	-5.0	<100B	-4.9	<100B	-5.8	<100B
Magnesium	5000	17.6	24.9	<5000B	22.0	<5000B	20.3	<5000B	28.2	<5000B
Manganese	15 .	.16	1.4	<15.0B	1.6	<15.0B	2.3	<15.0B	1.8	<15.0B
Molybdenum	50	.68	anr				:			
Nickel	40	1	1.1	<40.0B	1.5	<40.0B	0.30	<40.0	2.0	<40.0B
Potassium	5000	28.2	9.6	<\$000	17.9	<5000	-0.90	<5000	32.1	<5000B
Selenium	100	2	3.2	<100B	3.5	<100B	2.5	<100B	1.5	<100
Silver	10	. 96	1.5	<10.0B	1.2	<10.0B	1.3	<10.0B	0.80	<10.0
Sodium	5000	153	97.3	<5000	79.1	<5000	68.5	<5000	94.8	<5000
Thallium	10	2.69	7.9	<10.0B	3.4	<10.0B	5.6	<10.0B	5.5	<10.0B
Tin	50	2.2	anr				k.,	ilas Ja	; ;	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Vanadium	50	.717	0.70	<\$0.08	0.90	<50.0B	1.0	<50.0B	1.0	<50.0B
Zinc	20	. 83	0.40	<20.0	. 0	<20.0	0.40	<20.0	. 0.20	<20.0

(*) Outside of QC limits (anr) Analyte not requested

BLANK RESULTS SUMMARY Part I - Initial and Continuing Calibration Blanks

Login Number: F5017 Account: ITPAMONN IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1008M1.ASC QC Limits: result < RDL

Date Analyzed: 10/08/99 Run ID: MA1583 Units: ug/l

Methods: SW846 6010A

Metal	RDL	IDL	CCB	final	CCB raw	final	
Aluminum	200	30	45.6	<200	82.9	<200B	
Antimony	60	2.39	5.1	<200	4.0	<60.0B	
Arsenic	10	3.4	0.51	<500	-0.20	<10.0	
Barium	200	. 39	1.2	<1000	1.6	<2008	
Beryllium	5.0	. 36	2.5	<5.0	2.6	<5.0B	
Cadmium	4.0	.33	1.1	<50	1.3	<4.0B	
Calcium	5000	19.5	48.8	<5000	26.7	<5000B	
Chromium	10	.637	1.4	√ 50	1.5	<10.0B	
Cobalt	50	. 797	1.3	<50	1.7	<50.0B	
Copper	25	.747	-1.3	<25	-1.1	<25.0B	
Iron	100	32	23.3	<100	68.3	<100B	
Lead	100	1.59	-4.4	<500	-5.5	<100B	
Magnesium	5000	17.6	26.7	<\$000	34.0	<5000B	
Manganese	15 .	.16	1.6	<15	2.1	<15.0B	
Molybdenum	50	. 68	anr				
Nickel	40	1	2.8	<40	1.6	<40.0B	
Potassium	5000	28.2	17.6	<5000	52.7	<5000B	
Selenium	100	2	1.3	<500	4.0	<100B	
Silver	10	.96	0.89	<50	0.90	<10.0	
Sodium	5000	153	134	<5000	293	<5000B	
Thallium	10	2.69	4.6	<500	11.4	(a)	
Tin	50	2.2	anr		in Fig.		
Vanadium	50	.717	1.3	<50	. 1.6	<50.0B	
Zinc	20	. 83	0.55	<20	0.80	<20.0	

^(*) Outside of QC limits(anr) Analyte not requested(a) Possible positive bias, but all sample results < the DL.

BLANK RESULTS SUMMARY Part 2 - Method Blanks

Login Number: F5017 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2131 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/07/99

Metal	RDL	IDI.	MB raw	final
Aluminum	20.0	3	1.4	<20.0
Antimony	6.0	.24	-0.04	<6.0
Arsenic	1.0	.34	-0.09	<1.0
Barium	20.0	. 04	0.05	<20.0
Beryllium	0.50	. 04	0.11	<0.50
Cadmium	0.40	.03	0.003	<0.40
Calcium	500	2	0.05	⊲ 500
Chromium	1.0	.06	0.02	<1.0
Cobalt	5.0	.08	0.02	<5.0
Copper	2.5	. 07	-0.19	<2.5
Iron	10.0	3.2	0.26	<10.0
Lead	10.0	.16	-0.09	<10.0
Magnesium	500 ,	1 - 8	0.26	<500
Manganese	1.5	.02	0.01	<1.5
Molybdenum	5.0	. 07	anr	
Nickel	4.0	.1	-0.01	<4.0
Potassium	500	2.8	~0.46	<500
Selenium	10.0	.2	0.13	<10.0
Silver	1.0	-1	0.04	<1.0
Sodium	500	15.3	17.3	<500
Thallium	1.0	.27	0.06	<1.0
Tin	5.0	. 22	anr	
Vanadium	5.0	.07	-0.009	<5.0
Zinc	2.0	.08	1.2	<2.0

Associated samples MP2131: F5017-1, F5017-2, F5017-3, F5017-4, F5017-5, F5017-6, F5017-7, F5017-8, F5017-9, F5017-10

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

(anr) Analyte not requested

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MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F5017 Account: ITPAMONR IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2131 Matrix Type: SOLID Methods: SW846 6010A Units: mg/kg

Prep Date:

10/07/99

10/07/99

Metal	F5017-10 Original		RPĎ	QC Limits	F5017-10 Original		Spikelot MPFLICP	% Rec	QC Limits
Aluminum	39000	39000	0.0	0-20	39000	46700	3151.9	243.6(a)	80-120
Antimony	1.5	1.8	13.8	0-20	1.5	53.7	108.69	48.0N	80-120
Arsenic	2.7	2.9	9.9	0-28	2.7	351	434.74	80.1	72-110
Barium	116	116	0.1	0-14	116	491	434.74	86.3	64-116
Beryllium	1.2	1.2	0.1	0-20	1.2	10.9	10.87	89.4	80-120
Cadmium	0.0	0.0	NC	0-16	0.0	9.0	10.87	82.9	64-120
Calcium	1270	1270	0.1	0.20	1270	1240	2717 16	2 . 5N	80-120
Chromium	16.1	16.2	0.5	0-33	16.1	54.6	43.47	88.4	66-119
Cobalt	12.3	12.3	0.5	0-20	12.3	103	108.69	83.8	80-120
Copper	14.3	14.4	0.5	0-39	14.3	63.3	54.34	90.3	65-124
Iron	32600	32600	0.0	0-20	32600	36200	2934.53	124.6(a)	80-120
Lead	21.9	22.2	1.4	0-44	21.9	110	108.69	80.8	60-127
Magnesium	3150 .	3160	0.1	0-20	3150	3580	2717.16	4.7N	80-120
Manganese	303	304	0.1	0-20	303	348	108.69	41.1N	80-120
Molybdenum	anr								
Nickel	9.2	9.2	0.5	0-30	9.2	102	108.69	85.4	71-119
Potassium	2100	2100	0.3	0-20	2100	2200	2717.16	3.9N	80-120
Selenium	0.0	0.0	NC	0-28	0.0	376	434.74	86.4	65-115
Silver	0.0	0.0	NC	0-21	0.0	7.4	10.87	68 5	63-123
Sodium	118	127	7.6	0-20	118	110	2717.16	-0.3N	80-120
Thallium	0.00	0.00	NC	0-20	0.00	455	434.74	77.9N	00-120
Tin	anr								•
Vanadium	74.8	74.8	0.0	0-20	74.8	175	108.69	91.9	80-120
Zinc	29.6	29.7	0.6	0-31	29.6	121	108.69	84.4	69-120

Associated samples MP2131: F5017-1, F5017-2, F5017-3, F5017-4, F5017-5, F5017-6, F5017-7, F5017-8, F5017-9, F5017-10

Results < IDL are shown as zero for calculation purposes

6000045

^(*) Outside of QC limits

⁽N) Matrix Spike Rec. outside of QC limits

⁽anr) Analyte not requested

⁽a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F5017 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2131 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/07/99

Prep Date:				10/07/99	
Metal	F5017-10 Original		Spikelot MPFLICP		QC Limits
Aluminum	39000	46700	3181.92	240.1(a)	80-120
Antimony	1.5	54.2	109.72	48.0N	80-120
Arsenic	2.7	351	438.89	79.3	72-110
Barium	116	491	438.89	85.6	64-116
Beryllium	1.2	10.9	10.97	B8.5	80-120
Cadmium	0.0	9.0	10.97	82.1	64-120
Calcium	1270	1340	2743.03	2.4M	90-120
Chromium	16.1	54.4	43.89	87.3	66-119
Cobalt	12.3	103	109.72	83.0	80-120
Copper	14.3	63.3	54.86	89.4	65-124
Iron	32600	36200	2962.48	122.8(a)	80-120
Lead	21.9	109	109.72	79.7	60-127
Magnesium	3150 .	3280	2743.03	4.5N	80-120
Manganese	303	348	109.72	40.6N	80-120
Molybdenum					
Nickel	9.2	102	109.72	84.5	71-119
Potassium	2100	2210	2743.03	4.2N	80-120
Selenium	0.0	376	438.89	85.6	65-115
Silver	0.0	7.4	10.97	67.1	63-123
Sodium	118	113	2743.03	-0.2N	80-120
Thallium	0.00	339	438.89	77.3N	80-120
Tin					- -
Vanadium	74 . B	175	109.72	91.1	80-120
Zinc	29.6	121	109.72	83.3	69-120

Associated samples MP2131: F5017-1, F5017-2, F5017-3, F5017-4, F5017-5, F5017-6, F5017-7, F5017-8, F5017-9, FS017-10

Results < IDL are shown as zero for calculation purposes

^(*) Outside of QC limits

⁽N) Matrix Spike Rec. outside of QC limits

⁽anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SERIAL DILUTION RESULTS SUMMARY

Login Number: F5017 Account. ITTAMONR IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2141 Matrix Type: SOLID

Methods: SW846 6010A

Units: ug/l

Prep Date:

10/08/99

Metal	F5024-1 Original SDL 1:		QC Limits
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Cadmium	anr		
Calcium	anz		
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	anr		
Lead	104 86.2	17.3	0-10
Magnesium	anr .		
Manganese	anr		
Molybdenum	anr		
Nickel	anr		
Potassium	anr		
Selenium	anr		
Silver	anr		
Sodium	anr		
Thallium	anr		
Tin	anr		
Vanadium	anr		
Zinc	anr	1 199	

Associated samples MP2141: F5017-11, F5017-12

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F5017 ACCOUNT: ITFAMONR - IT Corporation Project: ITFAMONR1597 - Bainbridge

QC Batch ID: MP2131 Matrix Type: SOLID Methods: SW846 6010A

Units: ug/l

Prep Date:

10/07/99

Metal	F5017-10 Original	SDL 1:5	RPD	QC Limits
Aluminum	349000	384000	10.0	0-10
Ancimony	13.8	17.4	26.0 (a)	0-10
Arsenic	23.7	0.00	100.0(a)	0-10
Barium	1040	1130	9.2	0-10
Beryllium	10.5	16.6	58.3 (a)	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	11400	12/00	11-6	0-10
Chromium	144	161	11.4	0-10
Cobalt	110	123	12.0	0-10
Copper	128	131	2.7	0-10
Iron	291000	314000	7.8	0-10
Lead	196	182	6.7	0-10
Magnesium	28200-	30800	9.5	0-10
Manganese	2710	2980	9.8	0-10
Molybdenum	anr			
Nickel	81.9	95.6	16.7	0-10
Potassium	18700	22200	18.4	0-10
Selenium	0.00	0.00	NC	0-10
Silver	0.00	0.00	NC	0-10
Sodium	1060	1640	55.6 (a)	0-10
Thallium	0.00	0.00	NC	0-10
Tin	anr			
Vanadium	669	731	9.3	0-10
Zinc	264	330	24.7	0-10

Associated samples MP2131: F5017-1, F5017-2, F5017-3, F5017-4, F5017-5, F5017-6, F5017-7, F5017-8, F5017-9, F5017-10

Results < IDL are shown as zero for calculation purposes

^(*) Outside of QC limits

⁽anr) Analyte not requested

⁽a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

OVERVIEW

One (1) soil sample was analyzed for lead by EPA SW-846 Method 6010. No site-specific Quality Control samples were analyzed. Accutest, located in Orlando, FL, performed the analyses.

SUMMARY

This sample was analyzed successfully.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

• The serial dilution sample had an elevated recovery of lead. The result for this analyte should be qualified estimated (J).

NOTES

There are no notes associated with this data validation report.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification

(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation

(Can be used for both positive results and sample quantitation limits)

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be hissed high. Actual value is expected to be lower.
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

Other Codes

- Q = No analytical result.
- NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Site: FNTC - Bainbridge - Small Arms Ranges Confirmation Results

Lab: Accutest

Reviewer: Michael J. Lacy, Ph.D.

Date: 21 October 1999 Repor: Number: F5024

Sample I.D.	204-331C1			
Matrix	Soil			
Units	mg/kg			
Date Sampled	10/4/1999			
Time Sampled	1403			
% Moisture	0.6			
рН	N/A			
Dilution Factor	1.0			
	VQ			
Lead	10 J			

VQ - Validation Qualifier

ATTACHMENT C

Laboratory Reported Results



Report of Analysis

Page 1 of 1

Client Sample ID: 204-331C1 Lab Sample ID: F5024-1

Matrix:

SO - Soil

Date Sampled: 10/04/99

Date Received: 10/07/99

Project:

Bainbridge

Percent Solids: 99.4

Metals Analysis

Analyte	Result	RDL	Units	DF	Prep	Analyzed By	Method
Lead	10	9.6	mg/kg	1	10/08/99	10/08/99 јк	SW846 6010A

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation

 1
RNATIONAL
HNOLOGY
CORPORATION

ANALYSIS RE JEST AND CHAIN OF CUSTODY RECORD*

Reference	Document N	5598	12
Page 1 of	1		

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Required Report Date 11 3 days ONE CONTAINER PER LINE Monroeville, PA 15196								
Sample ¹⁴ Number	Sample ¹⁵ Description/Type	Date/Time 16 Collected	Container ¹ Type		Pre- ¹⁹ servative	Requested Testing ²⁰ Program	Condition on ²¹ Receipt	Disposal ²² Record N o.
204-33101	Comp 3pt Sull Bildg 204 Grid P19	10/4/49	1-803	203	400	Total Lead 6010		M5/.450
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Possible Hazard I	ammable _ Skin Irri Required: ²⁶	tead tant 1 Poi	ison 8 🔟	Unknow	n 🛂 📗	Sample Disposal: ²⁵ Return to Client: Dispo	sal by Lab XI Archive	
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Accutest Laboratories Southeast Case Narrative

Job (SDG) No.: F532L			
Samples:			_
Analysis Performed: WHALS			_
1) Sample Receipt Conformance / Non-Confor	mance Summary		
Custody Seals on Coolers?	Yes (*)	No ()	
Custody Seals in Tact?	YEM)	Nu ()	•
Chain of Custody Sealed in Plastic?	Yes (4)	No ()	
Chain of Custody Filled out Properly?	Yes	No ()	
Enough ice and Packing material?	Yes (1)	No ()	
All Bottles Sealed?	Yest	No ()	
Any Bottles Broken?	Yes ()	NOW)	
Labels in good condition?	Yes()	No ()	
Labels agree with chain of custody?	Yes (1)	No ()	
Correct Containers Used?	Year ()	No ()	
Preserved Properly?	Yes (4)	No ()	
Sufficient Sample?	Too W	No ()	
Comments:		<u></u>	

Accutest Laboratories Southeast Case Narrative

3) Metals Conformance / Non-conformance Summary		
Blank level below reporting limits? MP214	Y (x)	No ()
If no, list analytes above reporting limits:		
Spike blank (LCS) data within acceptable Limits? MP2141	Yes (V)	
If no, list analytes outside of acceptable limits. Refer to QC summary for add	litional Comments:	
Matrix spike data within acceptable limits? MPZ141	Yes (v)	No ()
If no, list analytes outside of acceptable limits. Refer to QC summary for add	litional Comments:	
Matrix duplicate data within acceptable limits? #PZ141	Yes (V)	No ()
If v 'st analytes outside of acceptable limits. Refer to QC summary for add	litional Comments:	
Samples prepared and analyzed within holding time?	Yes (V	No ()
If holding times were not met, list analytes where holding times were exceed	led and explain:	
All analytical criteria met (calibration, CCV, ICV, CCB, etc.)?	Yes (V)	No ()
If not met, list effected samples and analytes:		•
Comments:		

SERIAL DILUTION RESULTS SUMMARY

Login Number: F5024 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2141 Matrix Type: SOLID

Methods: SW846 6010A Units: ug/l

Prep Date:

10/08/99

Metal	F5024-1 Original	SDL 1:5	Ŕ₽D	Ç
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Cadmium	anr			
Calcium	anr			
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	104	86.2	17.3	0-10
Magnesium	anr .			
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Potassium	anr			
Selenium	anr			
Silver	anr			
Sodium	anr			
Thallium	anr			
Tin				
	anr			
Vanadium	anr			
Zinc	anr			

Associated samples MP2141: F5024-1

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits (anr) Analyte not requested

OVERVIEW

Ome (1) soil samples were analyzed for lead by EPA SW-846 Method 6010. No site-specific Quality Control samples were analyzed. Accutest, located in Orlando, FL, performed the analyses.

SUMMARY

This sample was analyzed successfully.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

- The continuing calibration blanks contained lead at greater than the instrument detection limit. Sample results with concentrations less than five (5) times the blank concentration are qualified as blank contaminated (B).
- Matrix spike and matrix spike duplicate samples had low recoveries of lead. Lead results for this sample must be qualified biased low (L).
- The serial dilution sample had a relative percent difference greater than ten (10) percent. The lead result should be qualified estimated (J).

NOTES

The laboratory duplicate had a relative percent difference within the required 20 percent.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification

(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation

(Can be used for both positive results and sample quantitation limits)

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

Other Codes

- Q = No analytical result.
- NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Site: FNTC - Bainbridge - Small Arms Ranges Confirmation Results Lab: Accutest Reviewer: Michael J. Lacy, Ph.D. Date: 21 October 1999 Report Number: F5041

Sample I.D.	404-76C1
Matrix	Soil
Units	mg/kg
Date Sampled	10/8/1999
Time Sampled	1015
% Moisture	7.3
돔	N/A
Dilution Factor	1.0
	Result VQ
Lead	10.6 JBL

VQ - Validation Qualifier

ATTACHMENT C

Laboratory Reported Results



Report of Analysis

Page 1 of 1

Client Sample ID: 404-76C1

Lab Sample ID:

F5041-1

Matrix:

SO - Soil

Date Sampled: 10/08/99

Date Received: 10/09/99 Percent Solids: 92.7

Project:

Bainbridge

10.7

Metals Analysis

Result Units DF Prep Analyzed By Method Analyte

Lead

10.6 B

mg/kg 1

10/13/99 10/13/99 ЈК

SW846 6010A

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation



ANALYSIS RE IEST AND CHAIN OF CUSTOJY RECORD*

Reference	Document	r
Page 1 of		

CUMPORA	TION	CHA	IN OF C	:USTC	JY REC	ORD* Pa	ge 1 of <u>i</u>	ÜÜ
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Required Report D	Date 11 Oct 13@170						2790 Hossid	
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Sample ¹⁴ Number	Sample ¹⁵ Description/Type	Date/Time ¹⁶ Collected	Container'' Type	Sample 'C Volume	Pre- ¹⁹ servative	Requested Testing 20 Program	Condition on ²¹ Receipt	Disposal ²² Record No.
404-76C1	Comp 3pt Suil Bldg 409 Grid P3	10/8/19	1-803	203	4°C	Total lend 6010	,	MOLMSD
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B. Relinquished by Signature/Affiliation)		Dat Tim	e:		3. Receiv	ved by	Time: Date: Time:	
Comments: 29	results to Dic							

Accutest Laboratories Southeast <u>Case Narrative</u>

iary	
Yes (1)	No ()
Yes (1)	No ()
Yes (No ()
Yes (V)	No ()
Yes W	No ()
Yes (V)	No ()
Yes ()	1000
Yes ()	No ()
Yes ($N\phi(e_i)$
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Yes	No con
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	Yes (2) Yes (2) Yes (2) Yes (2) Yes (2) Yes (2) Yes (2) Yes (2) Yes (2) Yes (2) Yes (2) Yes (2) Yes (2)

BLANK RESULTS SUMMARY Part 1 - Initial and Continuing Calibration Blanks

Login Number: F5041 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1013M1.ASC QC Limits: result < RDL Date Analyzed: 10/13/99

Methods: EPA 200.7, SW846 6010A Units: ug/l

Run ID: MA1590

CCB ССВ CCB CCB RDL IDL final Metal raw raw final final final raw raw 30 Aluminum 200 anr Antimony 5.0 2.39 anr Arsenic 10 3.4 anr Barium 200 .39 anr Beryllium 5.0 .36 anr Cadmium . 33 5.0 anr Calcium 1000 19.5 anr Chromium 10 .637 Cobalt 50 .797 anr Copper 25 .747 anr 300 32 Iron anr 5.0 1.59 3.2 <5.0B 1.8 <5.0B 2.5 Lead <5.0B 2.5 <5.0 17.6 5000 Magnesium anr Manganese 15 .16 anr Molybdenum 50 anr Nickel 40 1 Potassium 5000 28.2 anr Selenium 10 anr Silver 10 .96 anr Sodium 5000 153 anr Thallium 10 2.69 anr 2.2 anr

(*) Outside of QC limits (anr) Analyte not requested

50

20

.717

.83

anr

anr

Vanadium

Zinc

BLANK RESULTS SUMMARY Part 1 - Initial and Continuing Calibration Blanks

Login Number: F5041 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1013M1.ASC QC Limits: result < RDL Date Analyzed: 10/13/99 Run ID: MA1590 Methods: EPA 200.7, SW846 6010A Units: ug/l

Limits: result < RDL Run ID: MA159

Metal	RDL	IDL	CCB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	30	anr						d.	
Antimony	5.0	2.39	anr							
Arsenic	10	3.4	anr	- 14°		1 3.5				
Barium	200	.39	anr							
Beryllium	5.0	.36	anr							
Cadmium	5.0	. 33	anr							
Calcium	1000	19.5	anr		:					
Chromium	10	. 637	anr				t.			
Çobalt	50	.797	anr		ie G			- 144. - 180		
Copper	25	.747	anr		:1 ::		:		i G	
Iron	300	32	anr					i i i		
Lead	5.0	1.59	3.2	<5.0B	3.3	<5.0B	3.0	<5.0	3.0	<5.0
Magnesium	5000	17.6	anr		ŠI.					
Manganese	15	.16	anr							
Molybdenum	50	. 68	anr		 					
Nickel	40	1	anr		in in the second		i Y		 5.	
Potassium	5000	28.2	anr				₩ 10- 15:		::. :: :}	
Selenium	10	2	anr				á S	1000		
Silver	10	. 96	anr				kt 4			
Sodium	5000	153	anr		À L			4 000 Hasean A Dear		
Thallium	10	2.69	anr		:5 :5				5 . - 	
Tin	50	2.2	anr	- 14414 1414						
Vanadium	50	.717	anr		25 5 62 4 1				:: }:	<u></u>
Zinc	20	.83	anr	. 17	î.			-114	ē	

^(*) Outside of QC limits (anr) Analyte not requested

BLANK RESULTS SUMMARY Part 1 - Initial and Continuing Calibration Blanks

Login Number: F5041 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1013M1.ASC QC Limits: result < RDL

Date Analyzed: 10/13/99 Methods: EPA 200.7, SW846 6010A Run ID: MA1590 Units: ug/l

QC DIMITO. IC					
Metal	RDL	IDL	CCB raw	final	
uminum	200	30	anr		
ony	5.0	2.39	anr		
enic	10	3.4	anr		
ım	200	.39	anr		
llium	5.0	.36	anr		
ım	5.0	. 33	anr		
n	1000	19.5	anr		
ım	10	.637	anr		
t	50	. 797	anr		
r	25	. 747	anr		
	300	32	anr		
	5.0	1.59	2.2	<5.0	
sium	5000	17.6	anr		
nese	15	16	anr		
enum	50	. 68	anr		
	40	1	anr		
ium	5000	28.2	anr		
ium	10	2	anr		
r	10	- 96	anr		
ım	5000	153	anr		
.lium	10	2.69	anr		
	50	2.2	anr		
dium	50	.717	anr		
	20	.83	anr		

^(*) Outside of QC limits (anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F5041
Assount: ITPAMONE - TT Corporation
Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2156 Matrix Type: SOLID

Methods: SW846 6010A

Units: mg/kg

Prep Date:

10/13/99

10/13/99

Frep Date:		10/13/32	407 237 33					
Metal	F5041-1 Original DUP	RPD	QC Limits	F5041-1 Original	MS	Spikelot MPFLICP		QC Limits
Aluminum	anr							
Antimony	anr	έ.						
Arsenic	anr							
Barium	anr							
Beryllium	anr							
Cadmium	anr							
Calcium	anr							
Chromium	anr							
Cobalt	anr							
Copper	anr							
Iron	anr							
Lead	10.6 11.3	5.8	0-44	10.6	93.0	115.99	71.0	60-127
Magnesium	anr .							
Manganese	anr						1 11	
Molybdenum	anr							:
Nickel	anr							
Potassium	anr							
Selenium	anr							i. Fr
Silver	anr							
Sodium	anr							
Thallium	anr							
Tin	anr							
Vanadium	anr							•
Zinc	anr						*.	

Associated samples MP2156: F5041-1

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F5041
Account: ITPAMONR - IT Corporation
Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2156 Matrix Type: SOLID

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/13/99

			
Metal	F5041-1 Original MSD	Spikelot MPFLICP * Rec	QC Limits
Aluminum	anr		
Antimony	anr	-	11
Arsenic	anr		. •
Barium	anr '		
Beryllium	anr		
Cadmium	anr		et. G
Calcium	anr		
Chromium	anr		A. 4 H
Cobalt	anr	Francisco (Francisco) Francisco (Francisco)	
Copper	anr		30) 30
Iron	anr		
Lead	10.6 85.0	105.76 70.3	60-127
Magnesium	anr		
Manganese	anr		#
Molybdenum		71.55 1884 - 1	
Nickel	anr		
Potassium	anr		104) 144 154
Selenium	anr		
Silver	anr		
Sodium	anr		
Thallium	anr		
Tin			
Vanadium	anr		a Alg
Zinc	anr		

Associated samples MP2156: F5041-1

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F5041 Account: ITPANONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2156 Matrix Type: SOLID

Methods: SW846 6010A

Units: ug/l

Prep Date:

10/13/99

trep bace.				 _	
Metal	F5041-1 Original SDL 1:5	RPD	QC Limits		
luminum	anr				
imony	anr				
senic	anr				
arium	anr				
eryllium	anr				
dmium	anr				
alcium	वाम				
hromium	anr				
obalt	anr				
Copper	anr				
ron	anr				
Lead	99.5 124	25.0	0-10		
agnesium	anr .				
langanese	anr				
olybdenum	anr				
vickel	anr				
Potassium	anr				
Selenium	anr				
Silver	anr				
Sodium	anr				
Thallium					
	anr				
Tin	anr				
Vanadium	anr				
Zinc	anr	Self-See Mil			

Associated samples MP2156: F5041-1

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

(anr) Analyte not requested

•

OVERVIEW

Two (2) soil samples were analyzed for lead by EPA SW-846 Method 6010. No site-specific Quality Control samples were analyzed. Accutest, located in Orlando, FL, performed the analyses.

SUMMARY

These samples were analyzed successfully.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

- Lead was recovered at greater than the instrument detection limit in the initial and continuing calibration blanks. Sample results with concentrations less than five (5) times the blank concentration are qualified as blank contaminated (B).
- Lead was recovered low in both the matrix spike and matrix spike duplicate samples. The data were
 qualified low (L).

NOTES

- The low calibration standard for lead was recovered low, although the regular concentration standard was acceptably recovered. Therefore, the data were not qualified.
- The serial dilution had a high relative percent difference. However, since the original sample concentration was less than 50 times the instrument detection limit, the data are not qualified.

REPORT CONTENT STATEMENT

These data were reviewed in accordance with USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

Codes Relating to Identification

(Confidence Concerning Presence or Absence of Compounds)

U = Not Detected. The associated number indicates the approximate sample concentration necessary to be detected.

(No Code) = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation

(Can be used for both positive results and sample quantitation limits)

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

Other Codes

- Q = No analytical result.
- NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Data Summary Table

Site: FNTC - Bainbridge - Small Arms Ranges Confirmation Results

Lab: Accutest

Reviewer: Michael J. Lacy, Ph.D.

Date: 21 October 1999 Report Number: F5051

Semple I.D.	204-35	C2	204-386C1		
Matrix	Soil		Soil		
Units	mg/k	g	mg/kg		
Date Sampled	10/11/1	999	10/11/1999		
Time Sampled	1510	5	1515		
% Moisture	18.8		14.3		
рΗ	N/A		N/A		
Dilution Factor	1.0		1.0		
	Result	VQ	Result	VQ	
Lead	7.0	7.0 JBL		JBL	

VQ - Validation Qualifier

.

ATTACHMENT C

Laboratory Reported Results

Report of Analysis

Page 1 of 1

Client Sample ID: 204-35C2

Lah Sample ID: Matrix:

F5051-1

SO - Soil

Date Sampled: 10/11/99

Date Received: 10/12/99 Percent Solids: 81.2

Project:

Bainbridge

Metals Analysis

RDL Analyte Result Units DF Prep Analyzed By Method

Lead 7.0 B 12.0 mg/kg 1 10/13/99 10/14/99 јк SW846 6010A

Report of Analysis

Page 1 of 1

Client Sample ID: 204-368C1

Lah Sample ID: F5051-2 Matrix: SO - Soil

Date Sampled: 10/11/99 **Date Received:** 10/12/99

Percent Solids: 85.7

Project:

Bainbridge

Metals Analysis

Analyte Result RDL Units DF Prep Analyzed By Method

Lead 10.0 B 10.9 mg/kg 1 10/13/99 10/14/99 JK SW846 6010A

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation

	ERNATIONAL TECHNOLOGY
LLJ	CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Referer	ice	Document	N ₀ 255	98	7	4
Page 1	of		َ رُ			

Project Name/	No. 1 Bainbridge 79	7539 Samp	ples Shipm	ent Date	7 10/	////99 Bill to	5 IT corp	
							2790 Mosside	
Profit Center	No. 3	·	Lab	Contact	9 640	7-425-6700	Moreroeville,	
Project Mana	aner4 L. Steam	S Proi	ect Contac	t /Dhone	12 74	test Lab 7-425-6700 a williams 10-372-3950 Final ETreater Report to	10 Larry Steam	ū i
Durcheen Orden	No. 6 798939-				13 m a	Report to	IT Corp	
		007	Carrier/ VV	aybiii No.	red Ex	791801268162	2790 Mussi	A. Blud
Hequired Heport L	Date 11 3 days		ONE	CONT	AINER	PER LINE	Monroeville	
Sample ¹⁴ Number	Sample ¹⁵ Description/Type	Date/Time 16 Collected	Container Type	Sample ¹⁸ Volume	Pre- ¹⁹ servative	Requested Testing ²⁰ Program	Condition on ²¹ Receipt	Disposal ²² Record No.
204-35CZ	DICTED CHANTED	1510	1-803	~603	4°C	Total Lead 6010	FSOSI-1	·
204-36BC1	Bidg 204 Gird PI	10/11/99 1515	1	ين کي	1	Total Lead 6010	-2	MS/MSD
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							ियाहासी वाहरताता वेद्यालया । सम्बद्धानी व	Section 1.
<u></u>		···						
Special Instructio	ns: 23 E-mail re	nets to 7	Dorothy	Smal	01			
Possible Hazard I	dentification: 24 lammable 🔟 Skin Irrit	cad				Sample Disposal: ²⁵ Return to Client 🗀 💮 Dispo	osal by Lab 🔏 Archive	(mas.)
Turnaround Time Normal Rush	Hequired: 26 3 da 28 Dick Treate	15	<u> 15 </u>		7 18. ∑⊴	Project Specific (specify);	Many NFESC Le.	روا و
1. Relinquished by (Signature/Affiliation)	28 DICK Treate	Dat Tim	ie: 10/11		•	ved by 28 /2//	Date: Time:	1012.99
2. Relinquished by (Signature/Affilation)		Dat Tim			2. Recei (Signature/A	ved by filiation)	Coolea Date:	
3. Relinquished by (Signature/Affiliation)		Dat Tim			3. Receir (Signature/A		Date: Time:	
Comments: 29 Fax ve	160	1c Trent 10-378						

Accutest Laboratories Southeast <u>Case Narrative</u>

Job (SDG) No.: <u>F505</u>	_	
Samples: 19		
Analysis Performed: Metals		
1) Sample Receipt Conformance / Non-Confor	mance Summary	
Custody Seals on Coolers?	Yes (*)	No ()
Custody Seals in Tact?	x6 (1)	No ()
Chain of Custody Sealed in Plastic?	Yes (1)	No ()
Chain of Custody Filled out Properly?	Yes (1.)	No ()
Enough ice and Packing material?	Yes (V)	No ()
All Bottles Sealed?	You (V)	Zo ()
Any Bottles Broken?	Yes ()	NO (V)
Labels in good condition?	Yes ()	No ()
Labels agree with chain of custody?	(V 00)	No ()
Correct Containers Used?	Yes (V)	No ()
Preserved Properly?	10 V	No. ()
Sufficient Sample?	Yes de	No. (-)
Comments:		···

Accutest Laboratories Southeast Case Narrative

3) Metals Conformance / Non-conformance Summary		
Blank level below reporting limits?	Yes (v)	No ()
If no, list analytes above reporting limits:		
Spike blank (LCS) data within acceptable Limits?	Yes (r)	No ()
If no, list analytes outside of acceptable limits. Refer to QC summary for ac	lditional Comments:	
Matrix spike data within acceptable limits?	Yes ()	No ()
If no, list analytes outside of acceptable limits. Refer to QC summary for ac	dditional Comments:	
Matrix duplicate data within acceptable limits?	Yes (v)	No ()
If no, list analytes outside of acceptable limits. Refer to QC summary for ac	dditional Comments:	
Samples prepared and analyzed within holding time?	Yes (*)	No ()
If holding times were not met, list analytes where holding times were excee	eded and explain;	
All analytical criteria met (calibration, CCV, ICV, CCB, etc.)?	Yesk)	No ()
If not met, list effected samples and analytes:		,
Community		
Comments:	<u> </u>	

INITIAL CALIBRATION VERIFICATION SUMMARY

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: F5051 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1014M1.ASC

Date Analyzed: 10/14/99 Run ID: MA1591

Methods: EPA 200.7, SW846 6010A Units: ug/l

QC Limits: 70 to 130 % Recovery

CRI CRIA CRI CRIA

Metal	True	True	Results	% Rec	Results % Rec	
Aluminum	200			1,3		
Antimony		5.0	anr			
Arsenic		10	anr			
Barium	200					
Beryllium	5.0					
Cadmium	5.0					
Calcium	1000				7 (1) (1) (4) (4) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	
Chromium	10				기 시설계 설립 	
Cobalt	50					
Copper	25					
Iron	300			- 1 Andrew - 1 Andrew		
Lead		10	7.7	77.0		
Magnesium	5000					
Manganese	15					
Molybdenum	50					
Nickel	40					
Potassium	5000					
Selenium		10	anr			
Silver	10					
Sodium	5000					
Thallium		10	anr			
Tin	50				1.2 14 14 14 1 4 15 15 15 15 15 15 15 15 15 15 15 15 15	
Vanadium	50					
Zinc	20					

^(*) Outside of QC limits (anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F5051 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2158 Macrix Type: solid

Methods: \$W846 6010A Units: mg/kg

Prep Date:

10/13/99

10/13/99

rieb pace.		10/1					
Metal	FS051-1 Original MS	Spikelot MPFLICP % Re	QC Limits	FS051-1 Original	DUP	RPD	QC Limits
Aluminum	anr						
Antimony	anr						
Arsenic	anr	•					
Barium	anr						
Beryllium	anr					٠	
Cadmium	anr		• .				
Calcium	anr						
Chromium	anr						
Cobalt	que						•
Copper	anr		4 18 BUB				
Iron	anr						
Lead	7.0 97.2	120.74 74.7	60-127	7.0	7.2	3.9	0-44
Magnesium	anr						
Manganese	anr		1416 1441				
Molybdenum		1년 기술 1482년 -					
Nickel	anr						<u>1.</u> F
Potassium	anr						
Selenium	anr		70 80 0 30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				
Silver	anr						A Ar
Sodium	anr		74. 11. a			1138 1181 1181 1181 1181	
Thallium	anr	1 4 4 4 2 1 5 4 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1	ave Posta Save				
Tin							f.
Vanadium	anr						
Zinc	anr						

Associated samples MP2158: F5051-1, F5051-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F5051 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

QC Batch ID: MP2158 Matrix Type. Solid

Methods: SW846 6010A Units: mg/kg

Prep Date:

10/13/99

imits
)-127

Associated samples MP2158: F5051-1, F5051-2

Results < IDL are shown as zero for calculation purposes (*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits (anr) Analyte not requested

.

BLANK RESULTS SUMMARY Part 1 - Initial and Continuing Calibration Blanks

Login Number: F5051 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1014M1.ASC QC Limits: result < RDL Date Analyzed: 10/14/99 Run ID: MA1591

Methods: EPA 200.7, SW846 6010A Units: ug/l

QC LIMITCS. I	6901C C K			ID. FAI	,,,,	onics: 49/1				
Metal	RDL	IDL	ICB raw	final	CCB	final	CCB	final	CCB	final
Aluminum	200	30	anr		:					
Antimony	5.0	2.39	anr		:1 :			÷		
Arsenic	10	3.4	anr				i N M			
Barium	200	.39	anr		di Litte Maria		:.	- 17. 17.		
Beryllium	5.0	.36	anr		I.				i i	
Cadmium	5.0	.33	anr							
Calcium	1000	19.5	anr		6. 9 80- 9 1					
Chromium	10	. 637	anr							
Cobalt	50	.797	anr							
Copper	25	.747	anr		- G - G - G - G - G - G - G - G - G - G	6 a 5 mil 3 d			1	
Iron	300	32	anr				8 8 8 8			
Lead	5.0	1.59	1.8	<5.0B	4 1.1	< 5.0	2.4	<5.DB	1.7	<5.0B
Magnesium	5000	17.6	anr				d A		: :	
Manganese	15	.16	anr		12 13 14			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Molybdenum	50	. 68	anr							
Nickel	40	1	anr		함 음 11		년 왕			
Potassium	5000	28.2	anr						(
Selenium	10	2	anr							
Silver	10	. 96	anr		600 500 500 500 600 600 600		At S S S	- 3000 A		
Sodium	5000	153	anr							
Thallium	10	2.69	anr							
Tin	50	2.2	anr		1: 3:					
Vanadium	50	.717	anr				÷,			
Zinc	20	.83	anr	- Burn Arpell						그는 사람들이

^(*) Outside of QC limits (anr) Analyte not requested

BLANK RESULTS SUMMARY Part 1 - Initial and Continuing Calibration Blanks

Login Number: FS051 Account: ITFAMONT IT Corporation Project: ITFAMONR1597 - Bainbridge

File ID: IR1014M1.ASC OC Limits: result < RDL

Date Analyzed: 10/14/99

Methods: EPA 200.7, SW846 6010A Units: ug/l

Run ID: MA1591 Units: ug/

OC Limits: r	esult < K		Run	ID: MAI	591	Units: ug/l				
Metal	RDL	IDL	CCB raw	final	CCB raw	final	CCB raw	final	CCB raw	final
Aluminum	200	30	anr			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
Antimony	5.0	2.39	anr							13.5 15.445
Arsenic	10	3.4	anr						:	
Barium	200	.39	anr							
Beryllium	5.0	. 36	anr							
Cadmium	5.0	- 33	anr							
Calcium	1000	19.5	anr							
Chromium	10	-637	qiir		: :					
Cobalt	50	.797	anr							
Copper	25	.747	anr							
Iron	300	32	anr							
Lead	5.0	1.59	1.7	<5.0B	2.3	<5.08	1.8	<5.0	2.0	<5.0
4agnesium	5000	17.6	anr				:			
Manganese	15	.16	anr		0 V			194 114		
Molybdenum	50	. 68	anr					2 (1945) 12 (1946) 13 (1947) 14 (1947)		
Nickel	40	1	anr							
Potassium	5000	28.2	anr							
Selenium	10	2	anr							
Silver	10	. 96	anr		i L				-	
Sodium	5000	153	anr					- 1,488 - 1,488 - 1,481 - 1,481		
Thallium	10	2.69	anr						-	
C ín	50	2.2	anr							
Vanadium	50	.717	anr							
Zinc	20	.83	anr							

(*) Outside of QC limits (anr) Analyte not requested

BLANK RESULTS SUMMARY Part 1 - Initial and Continuing Calibration Blanks

Login Number: F5051 Account: ITPAMONR - IT Corporation Project: ITPAMONR1597 - Bainbridge

File ID: IR1014M1.ASC

Date Analyzed: 10/14/99 Methods: EPA 200.7, SW846 6010A Run ID: MA1591 Units: ug/l

QC Limits: result < RDL

QC Limits: lesuit < RDL			- Run	ID. PARIS	<i>y</i> 1				
Metal	RDL	IDL	CCB raw	final	CCB raw	final	CCB raw	final	
Aluminum	200	30	anr				.:		
Antimony	5.0	2.39	anr		e es		:-		
Arsenic	10	3.4	anr	ing the second of the second o					
Barium	200	.39	anr		 		· · ·		
Beryllium	5.0	. 36	anr				· ·		
Cadmium	5.0	. 33	anr						
Calcium	1000	19.5	anr		de Grand Ar				
Chromium	10	.637	anr		Š				
Cobalt	50	.797	anr		ă.		4. 9		
Copper	25	.747	anr				<u> </u>		
Iron	300	32	anr						
Lead	5.0	1.59	-0.80	<5.0	2.5	<5.08	7.5	(a)	
Magnesium	5000	17.6	anr						
Manganese	15	.16	anr				·· -		
Molybdenum	50	. 68	anr				i is		
Nickel	40	1	anr						
Potassium	5000	28.2	anr		1 1. 1.				
Selenium	10	2	anr	i fate (i.e. hi ya Dente a Dente Penal Mortus II	Š.		e E A		
Silver	10	. 96	anr						
Sodium	5000	153	anr	V 6 93024010040 					
Thallium	10	2.69	anr						
Tin	50	2.2	anr		07 6.5 36 56		å B		
Vanadium	50	.717	anr) (1) (1)		f E		
Zinc	20	.83	anr		ii Ži		ř.		

^(*) Outside of QC limits
(anr) Analyte not requested
(a) Bracketing soil samples. Higher DL used.

DATE:

December 01, 1999

SUBJECT: Data Validation for

Former Naval Training Center-Bainbridge

Port Deposit, Maryland

FROM:

Michael J. Lacy, Ph.D.

Field Analytical Services Manager

IT Corporation - Trenton, New Jersey

TO:

Mary Cooke - Project Contact

Hazardous Site Cleanup Division, 3HS13

OVERVIEW⁻

Two (2) soil samples were analyzed for lead by EPA SW-846 Method 6010. No site-specific Quality Control samples were analyzed. Analytical Laboratory Services, located in Middletown, PA, performed the analyses.

SUMMARY

The samples were analyzed successfully.

MAJOR PROBLEMS

No major problems with the validity of the analytical data were found.

MINOR PROBLEMS

• The sample and duplicate results differed by more than 20 percent. All lead results should be qualified estimated (J).

NOTES

There are no notes associated with this Data Validation Report.

REPORT CONTENT STATEMENT

These data were reviewed in accordance USEPA Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses. The text of this report only addresses items that affect the validity of the data contained therein.

ATTACHMENT A

Glossary of Data Qualifiers

Glossary of Data Qualifier Codes

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(No Code) = Confirmed identification.

- B = Not detected substantially above the level reported in laboratory or field blanks.
- R = Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
- N = Tentative identification. Consider present. Special methods may be needed to confirm the presence or absence in future sampling efforts.

Codes Related to Quantitation

(Can be used for both positive results and sample quantitation limits)

- J = Analyte present. Reported value may not be accurate or precise.
- K = Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L = Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- UJ = Not detected, quantitation limit may be inaccurate or imprecise.
- UL = Not detected, quantitation limit is probably higher.

Other Codes

- Q = No analytical result.
- NJ = Qualitative identification questionable due to poor resolution. Presumptively present at approximate quantity.

ATTACHMENT B

Data Summary Forms

Site: FNTC - Bainbridge - Water Tower at Buildings 689 & 1054 Confirmation Results

Lab: Analytical Laboratory Services Reviewer: Michael J. Lacy, Ph.D.

Date: 01 December 1999 Report Number: OBT-031

Sample I.D.	Bain689	Bain689SWCon Bain689SW				
Matrix	Sc	Soil Soil				
Units	mg	/kg	mg/kg			
Date Sampled	12/2	2/98	12/2	2/98		
Time Sampled	14	00	1410			
% Moisture	12	.4	11	.1		
pH	N/	Α	N.	/A		
Dilution Factor	1.	0	1	.0		
Section 2	Result	Result VQ Resu		VQ		
Lead	34	J	31 J			

VQ - Validation Qualifier

1 of 1

ATTACHMENT C

Laboratory Reported Results



Page # 1

Sample # U25216-1

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

January 6, 1999

LAB ANALYSIS REPORT

Job Name : Bainbridge NTC

Bainbridge NTC Customer PO#

Location : BAIN 689 SW CON Date Received : 12/23/98 Sample State : Soil Composite Date Approved : 01/06/99

Collector : DB Discard Date

REPORTING RESULT TEST/PARAMETER UNITS LIMIT METHOD METALS TOTAL METALS BY ICP 10 6010B Lead 30 mg/kg Dry Weight 34 Lead mg/kg WATER OUALITY 0.1 Total Solids 87.6 3 3540B

DATA PACKAGES
DATA PACKAGE

NFESC Lev C

This report relates only to the samples as received by the laboratory, and may only be reproduced in full.

**** Continued ****



Page # 2 Sample # U25216-1

January 6, 1999

QUALITY ASSURANCE REPORT

Q/A PARAMETER	RESULT	
METALS		
TOTAL METALS BY ICP		
Lead Lead	95 88 <i>Q</i>	% Recovery Spike % Recovery Spike
WATER QUALITY Total Solids	87.9	% Duplicate
		ANALYS IS
TEST/PARAMETER	PRESERVATIVE	TECH DATE TIME
TOTAL METALS BY ICP 50B Digestion for Metals Total Solids DATA PACKAGE	See Chain of Custoo	JWK 12/30/98

Respectfully Submitted,

Laboratory Manager



Page # 1 Sample # U25216-2

ATTN: Mr. Mike Lacey

OHM REMEDIATION SERVICES CORP

200 HORIZON CENTER

TRENTON

NJ 08691

January 6, 1999

LAB ANALYSIS REPORT

Job Name : Bainbridge NTC Customer PO#

Job Number : 03562-LS-BB Date Sampled : 12/22/98 02:10 PM

Location : BAIN 689 SW-1 CON Date Received : 12/23/98 Sample State : Soil Composite Date Approved : 01/06/99

Collector : DB Discard Date :

TEST/PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
METALS				
TOTAL METALS BY ICP Lead	28	mg/kg	0 100	6010B
Lead	31	mg/kg	Dry Weig	ht
WATER QUALITY Total Solids	88.9	4	0.1	3540B

DATA PACKAGES
DATA PACKAGE
NFESC Lev C

The lack of homogeneity in the sample caused the analysis of the analytes to exceed 20% relative standard difference for total metal analysis.

**** Continued ****

000021

ATTACHMENT D

Laboratory Reported Tentatively Identified Compounds

(Not Applicable)

ATTACHMENT E

Support Documentation



Onde All- M-SUS

CHAIN-OF-CUSTODY RECORD

WALL

Form 0019
Field Technical Services
190585
Rev. 08/89

2 1.25

O.H. MATERIALS CORP. P.O. BOX 551 FINDLAY, OH 45839-0551 419-423-3526 PROJECT NAME PROJECT LOCATION ANALYSIS DESIRED The House MAD ENNER ONE ASIC INDICATE PROJECT TELEPHONE NO. PROJECT CONTACT SEPARATE CONTAINERS) MID 310 3823 917568 MISSEL CLESIE PROJECT MANAGER/SUPERVISOR CLIENT'S REPRESENTATIVE CHARLEST STROY STATES (STANDA) FPANK ZITTA SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE) SAMPLE DATE | TIME REMARKS 1345 to see it pasticular in a who Drog & soil 1.44 2 of composite of soil order aspect BAD 623 LE-2 <u> بالمصرفية وي صاورتهمي الأصالحون</u> 1358 BALL 653 Dlo 3 of composite of sent under espheit pro its reference of I al 12/18/14/12 Por composited southender assembly Burbers (4) With Lying NORSE ST PROMOBERS 1787 1216171 12 100 2716 6 St Compenie 600 1687 3 W CO WINNE BOW BEST 14 1000 LIVER 1SE EXCAUSIZED Brown See 12 25 Sil BAN BRASHOTEN Buy removed I Rem WARR TWEEK 4.87 40 177416 7 DATTAT please for exilled with the 18 3250 REMARKS **TRANSFERS** TRANSFERS ITEM ACCEPTED BY DATE TIME RELINQUISHED BY NUMBER SAMPLER'S SIGNATURE



CHAIN-OF-CUSTODY RECORD

LAB COPY
Form 0019
Field . . . nical Services
POSOS Rev. 08/89

190585

O.F	i. MATERIALS	CORP	•		P.O	. BOX 551	•	FINDLAY, OH 45839-0551	•	419	-423-	3526					y 12-24-44
73. PROJ. 1 Q 19 Q 18M	CT NAME LILBRUDGE NO. PROJECT SUB TB REPRESENTATIV ZALIK ZEPKA	CT CONT	C ct Bea T	3.0	KEIT	PROJECT MANA	PROI PROI	ECT TELEPHONE NO. 0 378 3223	NUMBER CONTAINERS	(INDI BEPA	LYSIS ICATE IRATE TAINEF						
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Analytical Laboratory Services Inc. Analytical Narrative OHM/IT-Bainbridge NTC OBT-001

SAMPLE MANAGMENT

This report contains the results of the analysis of five (5) soil samples collected on December 18 and 22, 1998. Analytical results and quality control information are summarized in this data package. The samples were analyzed as follows:

LAB ID	LOCATION	LEAD	PESTICIDES	TOTAL SOLIDS
U25211-1	BAIN 683 E8-2		*	**
U25211-2	BAIN 683 D6-3		*	*
U25211-3	BAIN 683 C6-2		*	宇
U25216-1	BAIN 689 SW CON	*		*
U25216-2	BAIN 689 SW-1 CON	*		*

SAMPLE RECEIPT

Samples arrived at ALSI via laboratory courier on December 23, 1998. Upon receipt, the samples were inspected and compared to the enclosed chain of custody. Cooler receipt forms were filled out for the samples received. All sample bottles were preserved properly. Each sample was assigned a unique identification number (see above table). The sample information was entered into the computer system and the samples were released for analysis.

PESTICIDES BY 8081A

Samples. Three (3) samples were extracted by method 3550B, sonication extraction on December 28, 1998. Sample interferences were removed from samples BAIN 683 E8-2 and BAIN 683 D6-3 by clean-up with Method 3620C, Flurisil Clean-Up on December 28, 1998. Sample extracts were analyzed by Method 8081A. All sample handling and analysis was completed within holding time.

Blanks. The method blank associated with the 8081A samples in this deliverable group is PP457Y-1. There were no detections in the method blank. The method blank summary form is enclosed.

Calibration. The initial calibration was conducted on December 30, 1998. A standard prepared from a source different from the initial calibration was analyzed immediately

following the initial calibration. Results were acceptable. Continuing calibration checks were above acceptable limits for heptachlor, but all samples were nondetectable for this analyte. Therefore per method requirements, samples were not re-analyzed.

Surrogates. Surrogate recovery forms are enclosed. Surrogate recoveries were acceptable for the samples in this deliverable group.

LCS. PP457Y-1LCS is the laboratory control sample extracted with the samples in this group. The appropriate summary form is enclosed. All recoveries were acceptable.

Matrix Spike. BAIN683D6-3 was spiked in duplicate. Acceptable precision and accuracy were observed. The appropriate summary form is enclosed.

Detections. 4,4'-DDT, 4,4'-DDE, and 4.4'-DDD were tentatively identified on the primary column (RTX-5) in BAIN683E8-2 and BAIN683C6-2. Qualitative verification was provided on a second column of dissimilar phase (RTX-CLPest).

Interferences. The sample extracts were analyzed at a dilution in the pesticides analysis due to sample matrix.

Miscellaneous. A sample reporting error was detected in sample BAIN 683 E8-2 upon assembly of the data package. A modified laboratory analysis report is included in the package.

TOTAL METALS BY ICP by SW-846 Method 6010B

Sample handling. Two (2) soil samples were digested by SW-846 Method 3050B. Digestates were analyzed for metals by Spectro D ICP, using SW-846 Method 6010B. The samples were digested and analyzed within the six month holding time established for this method.

Calibration. Method calibrations are performed every six months according to instrument manufacturer's standards. A high standard and a blank are run daily. In addition, second source continuing calibration standards are analyzed to verify the calibration. The laboratory control sample (LCS), identified as LSD0845-1, was digested and analyzed with this batch of samples. The LCS was within the acceptable limits of 75-125% for lead.

Blanks. The method blank, identified as SD0845-1, was digested and analyzed. No metals were detected in the blank.

Spikes. A matrix spike / matrix spike duplicate analysis was performed on sample U25216-1. The matrix spike and matrix spike duplicate recoveries were within acceptable limits of 75-125% for lead

Duplicates. A prep duplicate was performed on sample U25216-2. The relative percent difference (RPD) between the sample and the duplicate was not within the required 20% for lead. The sample and sample duplicate had a high percent difference (22%), and a comment was added to the lab report. This is likely due to the sample matrix.

Total Solids by SM 3540B

Sample handling. Five (5) samples were analyzed for total solids by SM 3540B.

Duplicates. A duplicate analysis was performed on sample BAIN 689 SW CON. The relative percent difference was within 5%, the acceptable limit.

Sam	Sample Description								
BAIN	689	SW-1	CON						

Form 7 Duplicate Summary

Analysis Method:	6010B	SDG No.:	OBT-001	
Matrix (soil/water):	Soil	Lab Sample ID:	U25216-2	
	mg/kg	Lab File ID:	10699	
	SPECTRO D ICP	Lab Sample Dup. ID:	U25216-2D	
GC Column:		Dup. Lab File ID:	10699	
Sample % Moisture:	NA	Dup. % Moisture:	NA	

Analyte	Sample Concentration	Duplicate Concentration	Relative Percent Difference (RPD)	(1)	Acceptable Limit
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Comments:			 	
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^{* :} Values outside of acceptable limits